

Moving Towards a Strategy for The Sustainable Delivery of Emergency Housing and Temporary Residential Accommodation in the City of Cape Town.

A Case Study: OR Tambo TRA Khayelitsha

“A City in a state of emergency”



Chadernnay Brink

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Abstract

This dissertation presents the current reality of a South African city, Cape Town. Based on the literature it has been established that a large proportion of South Africa's population lives in urban areas. South African cities are centres of opportunities and have the promise of a better life but they are also characterised by marginalisation, poverty and poorly managed urban growth. Informal settlements have become a ubiquitous feature of South Africa's urban landscape. The combination of poverty, marginality, overcrowding and limited service provision, exposes residents to a range of ongoing hazards, particularly informal dwelling fires which creates an environment prone to risks and can be devastating for affected households. The current response from government has been analysed through the process of interviewing government officials; policy and institutional analysis, is to temporarily house people in Temporary Relocation Areas (TRAs) if affected by a situation that leaves them rendered homeless. It is believed to be an adequate response. However, as the research reveals, this response often exacerbates people's resilience to deal with the disaster and the accumulation of risks found in informal settlements. Additionally it further places people in a vulnerable situation as Temporary Relocation Areas (TRAs) have limited service provision and are often located in remote areas far from opportunity centres. The intention of the research was to come up with a new strategy to address emergency response in the form of settlement provision for those affected by disasters. It was further discovered that there needs to be a more sustainable approach that would reduce risk accumulation in informal settlements in a proactive manner in order to mitigate the occurrence of disasters and slowly build resilience.

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Acronyms

BNG Breaking New Ground

CTSDf Cape Town Spatial Development Framework

HDA Housing Development Agency

IDA Incremental Development Area

IDP Integrated Development Plan

MANDISA Monitoring, Mapping and Analysis of Disaster Incidents in Southern Africa

NGO Non– Governmental Organisation

NDMC National Disaster Management Centre

PDMC Provincial Disaster Management Centre

PSDF Provincial Spatial Development Framework

SDF Spatial Development Framework

SPUD Spatial Planning and Urban Design

TRA Temporary Relocation Area

UISP Upgrading of Informal Settlements Programme

Key Definitions

Disaster

Disaster in the urban context can be defined as a sudden, unexpected event, such as an accident or natural catastrophe that causes great damage or loss of life (Annan, 2002). The UNISDR (2009: 09) and Satterthwaite (2007) defines an urban disaster as a disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources; it is unique in that it occurs in a dense highly complex environment that has adapted to accommodate large populations.

Risk

Risk is the probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions (United Nations Inter-Agency Secretariat of International Strategy for Disaster Reduction [UN/ISDR, 2004]; cited in Shaw et al., 2009).

Vulnerability

Vulnerability is the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard (Dickson et al., 2010: viii). There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors (Dickson et al., 2010: viii). Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management (Dickson et al., 2010: viii). Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure (Dickson et al., 2010: viii).

Hazard

Hazard is most commonly referred to as a danger or the possibility of a risk. Everyday urban hazards include inadequate provision for water, sanitation and drainage, poor quality and overcrowded housing, and poor management of pollution and road traffic (Bull-Kamanga et al., 2003).

Threat

Threat within the nature of this research refers to areas where people live that impede their ability to feel in a safe environment.

Sustainable Development (Sustainable cities)

Within the nature and context of this research, sustainable development is defined as cities that are socially inclusive, economically productive, environmentally sustainable, and resilient to climate change and other risks (Sustainable Development Solutions Network, 2013).

Informal Settlements

Informal settlements within the nature of this research are areas which house people/communities without any formal/legal access to land tenure on which they are living. Dense informal settlement structure i.e. no formal piping, water and sanitation services. Structure is usually made up of recyclable material.

Also referred to as: slums/shanty towns

Disaster risk management

Disaster risk management is the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster. This term is an extension of the more general term "risk management" to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness (Dickson et al., 2010: iv).

Temporary Relocation Area/s (TRAs)

When it is clear that the site of the emergency is temporarily or permanently uninhabitable, relocation or resettlement takes place in the following ways:

- To a TRA that is provided on a temporary or permanent basis, or where resettlement takes place in the future when a permanent solution arises.
- To a permanent location with temporary assistance.
- To an existing developed area with temporary assistance.

(Housing Development Agency (HDA, 2012: 17).

Resilience

Resilience is the ability of a system, community or society exposed to hazard in a timely and efficient manner (UN Habitat, 2010 cited in Donovan, 2013: 54).

Chapter 1: Introduction



1. Introduction

'Government's housing development mandate emanates from the Constitution. It is therefore Government's duty to work progressively towards ensuring all South Africans can access secure tenure, housing, basic services, materials, facilities and infrastructure. Government will have to apply measures of a legislative, administrative, financial, educational and social nature to fulfil its housing obligations' (Department of Human Settlements (DHS) "National Housing Code" (2009) 7; cited in Tissington, 2010: 8).

The South African constitution section 26 enshrines everyone's right to adequate housing (Tissington, 2010: 8). Since the dawn of South Africa's democracy, government has attempted to realise this right, unfortunately South African cities spatial realities are largely engrossed with informality. The notion that poor people should be provided, by the state, with formal housing structures in planned and serviced areas forms the cornerstone of current South African national housing policy (Watson, 2003). According to Census 2011, South Africa's population is 51.8 million (StatsSA, 2011) and even though we as a country are 20 years into democracy we are still dealing with the entrenched spatial patterns of Apartheid that brought the crisis of housing. This in our own right is a disaster which may not be in the sense of its original definition but a disaster of continually impoverishing the already impoverished. Similarly, The Minister of Human Settlements described efforts to address the informal settlement situation in South Africa as "dealing with a manmade disaster every day (Tissington, 2010: 8). Despite the South African government's construction of state-subsidised houses, there remains a housing crisis in South Africa, which has political, technical, social and racial dimensions. Community protests, xenophobic violence, illegal occupation of RDP houses, court cases and corruption charges mark the housing delivery landscape (Tissington et al., 2013:80). The housing crisis further exacerbates the poor's already impoverished situation which places them in conditions of risk and increased vulnerability (Cirolia, 2014: 1). As noted by Tissington(2010) that it is evident that the state cannot deliver housing on the scale required at a sustainable rate or within the means of low-income and poor households, and there is growing evidence that it will be impossible for South Africa's current settlement policy and practice to fully address the United Nations (UN) Millennium Development Goals (MDGs) target of slum-free cities, and the South African government's own target of "eradicating informal settlements by 2014" (Tissington, 2010). Although there are clear cut goals in removing slums the question is how realistic is this goal, the current output of government funded houses whilst dealing with the backlog, this goals seems more like a dream. On a global scale, assuming for a moment that these plans for slum eradication work, it

follows that little will be done about the 900 million who are already living in slums, adding this to the good proportion of the additional 3 billion expected to be living in cities in Africa and Asia by 2050 (Pieterse & Simone, 2013: 72). Pieterse & Simone (2013: 72) adds that it is not an overstatement at all to say that slum urbanism is probably here to stay for the foreseeable generations as the urban poor themselves incrementally struggle to resolve their own problems.

The City of Cape Town within in which the research case study area fits in currently has a population of 3, 7 million people as per the 2011 census (StatsSA, 2011). With this continued growth rate the population is expected to reach 4,2 million by 2031 (Cape Times, 2014). The current housing backlog stands at 375 000 and is expected to grow to 833 000 by 2031 while the City of Cape Town municipality is only producing 6100 houses per year (Cape Times, 2014), eradicating slums and dealing with the housing backlog cannot be achieved with the current system in place. Cirolia (2014) considers informal settlements in South Africa to be constructions of emergency situations. Informal settlements are prone and vulnerable to hazards, such as floods, fires, evictions, frequently leaving poor households homeless, destitute and increasingly less resilient (Bull-Kamanga et al., 2003; Inter-Agency Standing Committee, 2010; Pelling & Wisner, 2012; Khalifa, 2011 cited in Cirolia, 2014). The system continues to produce areas of risk to those living in informal settlements and the Emergency Housing Programme is used as a reactive tool in this regard. The housing delivery process is currently unsustainable with regards to state funding schemes and those people dependent on the system to lift them out of disaster situations.

I consider this issue to be a pertinent one as it has cumulative impacts on people's lives and through addressing the issue we can start building world class cities in South Africa. The aim of this research is to highlight the importance of addressing the delivery of a programme that includes multiple and interconnected urban problems such as issues surrounding land; equality; basic needs; adequate housing/ shelter; disaster risks; emergency situations; vulnerability; informality and the importance of working with the community as it is a democratic right. Watson (2014) states that only the poor know best how to survive poverty so there is a wealth of local knowledge which is important to consider. Improved housing is required on a large scale to address dire living conditions and continuing urbanisation (Turok, I, & Watson, V, 2001).

1.1 Aim of this study

The aim of this study is to propose a strategy for the sustainable delivery of Emergency Housing and Temporary Residential Accommodation in the City of Cape Town based on the in-depth review of the case study OR Tambo TRA in Khayelitsha. The planner should be ensure that there is a well-defined and clear process that facilitates collaboration between various government departments as to be

more proactive rather than reactive when dealing with situations of disaster or risks. This process should enable various budgets and plan approvals to be fast tracked in times of “emergency response”. Furthermore, the role of public participation in the disaster risk process is currently not evident on ground level and should be facilitated as to allow involvement in decision making processes and further address the victim's vulnerable situation. In addition, the process recommendation should address the TRA process and its temporal status and importance of each TRA to be formalised over time into IDA's using available planning resources in terms of additional funding mechanisms. In order to put forth a strategy key research questions will be investigated and answered.

- a) What planning tools and strategies can facilitate the emergency housing programme to be more proactive?
- b) How can planners contribute to the notion of co-operative governance which will enable all three government spheres (National Provincial and Local) and departments to work together in a supportive manner to fulfil its constitutional mandate in delivering adequate shelter for people to reside in?
- c) How can planners ensure that the budget provided in the Emergency Housing Programme is well accounted for and spent in a sustainable manner?
- d) How can the public participation process be done in a situation of 'disaster risk'?

1.2 Scope of the research

The scope of the research is situated in the township of Khayelitsha located within the City of Cape Town, Western Cape in South Africa. Khayelitsha is located 30km from the Cape Town's Central Business District (CBD) in the Cape flats region. Figure 1, is a map illustrating the spatial location of Khayelitsha. Khayelitsha is known as one of Cape Town's largest townships (Cape Town Tourism, 2014). The research area for this dissertation is the OR Tambo TRA which is located on the corner of Mew Way and Landsdowne Road in Khayelitsha, surrounded by neighbouring areas of Mfuleni, Macassar and Driftsands. The reason for choosing the OR Tambo TRA as a case study was because the disaster that occurred in the settlement was declared a National one, thus it necessitated all spheres of government to work together for a common goal which was to ensure alternative accommodation for the victims. Additionally the case is interesting in terms of all the different role players that came forward especially in developing the OR Tambo TRA and it highlights the City of

Cape Town's future plans in terms of the development of TRAs. Furthermore, Khayelitsha is one of the oldest townships in Cape Town and it saddens me that although Cape Town is currently in transition, residents of the township are still victims of unjust living environments.

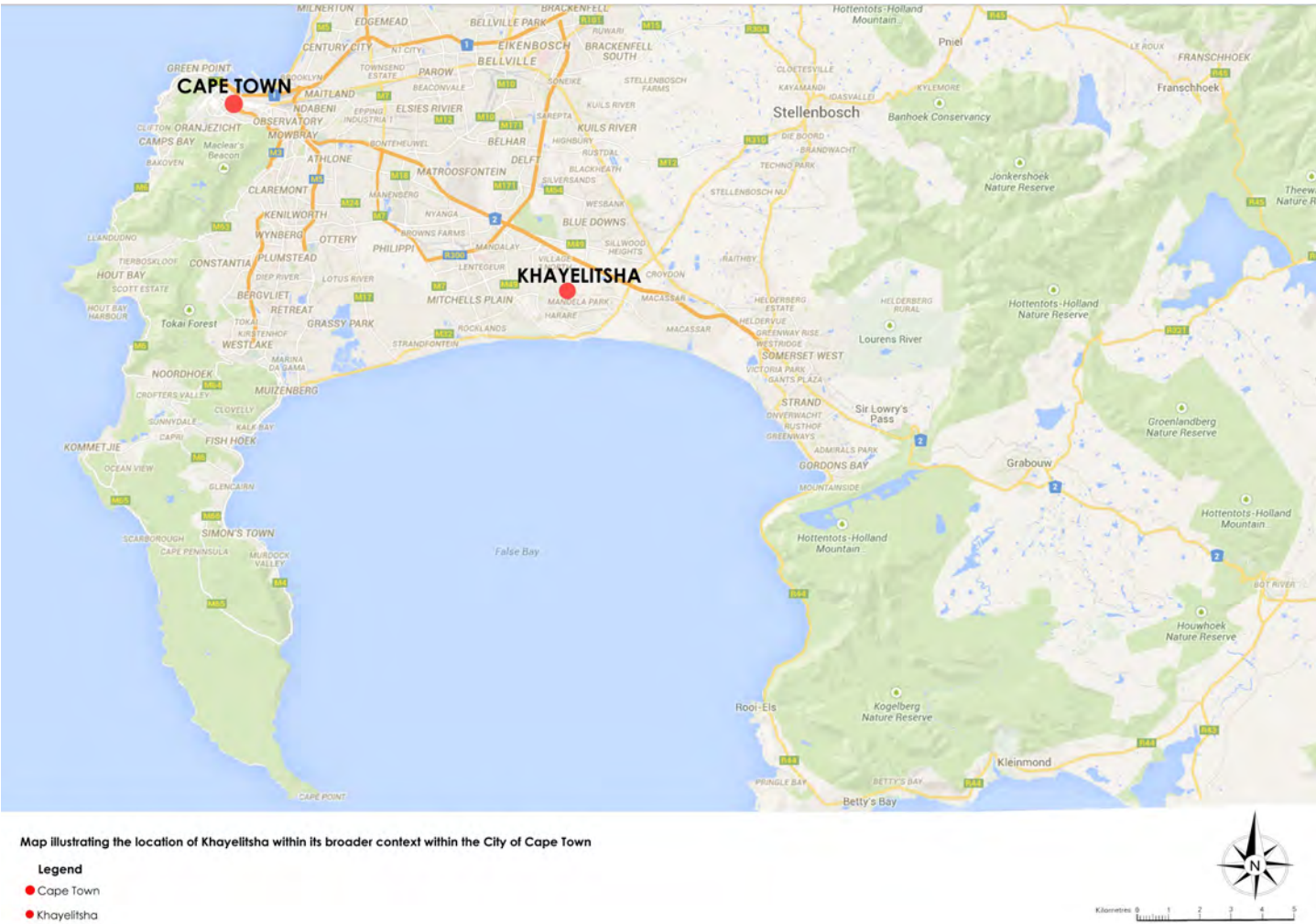


Figure 1: Map illustrating the location of Khayelitsha within its broader context within the City of Cape
Source: Author, 2014

1.3 Normative Position/ Role of the planner

As a planner I consider my role to be to reduce the accumulation of risks for vulnerable populations located within urban settlements. Wamsler (2006) considers the role of urban planning to be a tool for reducing disaster risk. Furthermore Wamsler (2006) argues that, 'urbanization affects disasters just as profoundly as disasters can affect urbanization' (Pelling, 2003a:7 cited in Wamsler, 2006). This is due to urban growth, whether planned or unplanned, seldom occurs to reduce disaster risk. Wamsler further states that there should be an asserted effort into creating urban environments that do not promote disasters. Wamsler (2006) makes an interesting point to say that urban planners

should not solely be focused on building buildings but should incorporate what makes buildings safe into their practice. There needs to be a more proactive approach that can help urban centres to identify and act on problems driven or led by what citizens themselves see as priorities. Furthermore, urban planners should develop a sense of 'ownership' of risk reduction as an integral part of their practice, so as to enhance communication between them and other professionals, and to encourage more work on risk reduction, which links the structural/physical with environmental, socio-economic, institutional and political aspect of development (Wamsler, 2006).

Within the realm of incorporating urban risk management into planning practice, planners should also have their own set of guiding values and principles. Sager (2006) considers the importance of values as an urban planner, tensions in the role as a planner are created by external pressures on the planner to act contrary to her/his values, and by recurring tasks that imply hard choices, that is, the need to trade off different values (Sager, 2006: 66). Values define what is right and what is wrong; they are central concepts or beliefs regarding final states or desirable behaviour that transcend specific situations, guide decisions, and therefore human conduct, becoming an integrated part of an individual's way of being and acting (Argandoña, 2003, p. 16; Schwartz & Bilsky, 1987: 551 cited in Sager, 2006: 66). The list presented by Sager (2006) contains examples of values that affect how an individual acts in his/her capacity as urban planner:

- a) Democracy refers defending every citizen's right to influence collective decisions in matters that concern them.
- b) Responsibility, taking care of the social and natural environment required to uphold the quality of life for everyone.
- c) Solidarity, implying that society should help individuals out of poverty, and that increasing the capabilities of people should be a primary policy concern.
- d) Autonomy, asserting that adult persons are themselves the right judges of what public goods will serve them best.
- e) Respect, protecting integrity, identity, and things held sacred from being traded off for economic gain

(Sager, 2006: 67).

There will be situations which threaten these values especially when as a planner your role is to consider the public good. It is a balancing act, but should essentially always be in the interest of the good of the public domain. These values I intend to adopt and it will be applied as I undertake this research process as they all represent me and the context of South Africa. I consider my normative position as a planner to be communicative planning especially with the reality of attempting to reduce situations of risks that urban areas produce. Communicative planning is an open and participatory enterprise involving all interested and affected groups in developmental projects. The process of communicative planning is open in the sense of being inclusive and transparent these principles are what our democratic country of South Africa is based upon. Communicative planning's role is to further ensure that the public have the knowledge of what is going on in their environment. Development efforts are socially oriented when they aim to further the interests of large segments of society rather than the interests of a few stakeholders only. Development is fairness-seeking when it aims to improve the living conditions of deprived groups, and when its substantive results observe the rights of all groups. The principles of discourse ethics state that the communicative process should be open, undistorted, truth-seeking, and empathic (Sager, 2006: 68).

Forester (1993, p. 6) regards the role of a communicative planner to be that of a democratising role for planning and administrative actors: the exposure of issues that political-economic structures otherwise would bury from public view, the opening and raising of questions that otherwise would be kept out of public discussion, the nurturance of hope rather than the perpetuation of a modern cynicism under conditions of great complexity and interdependence. It is evident from this definition of communicative planning and the associated planner's role, that values peculiar to this mode of planning are closely related to dialogue, communicative rationality, and fairness in the social possibilities to express oneself (Forester, 1993; cited in Sager, 2006: 68).

1.4 Nature of problem

Bull-Kamanga et al., (2003) describes urban areas as an accumulation of risks. These risks are more often than not particularly felt by the poor, marginal vulnerable population of cities. However, Bankoff (2001: 25) says the emphasis is essentially on what renders communities unsafe, a condition that depends primarily of society's social order and relative position of advantage or disadvantage that a particular group occupies within it. The implementation of the Emergency Housing Programme (HDA, 2012) in South Africa further increases the vulnerability of people affected by cases of disaster because it introduces a temporary reactive solution. Bankoff (2001: 25) argues that

incorporation of the temporal dimension does not make the condition of vulnerability synonymous to a state of poverty. Thus the nature of problem in this research is the way TRAs further increase and exacerbate vulnerabilities by adding to the accumulation of risks already present in informal areas. TRAs have developed in the City of Cape Town to deal with the housing crisis, victims of flood and fire disasters as well as informal settlement upgrading schemes. These temporary areas are often located far from transport and access routes in desolate places in the City. The sites are not serviced and thus increases the risk of disasters reoccurring due to the nature of it as a form of habitat. The City has turned to developing Incremental Development Areas (IDAs) with permanent services; however one question arises is, will this deal with the existing pressures on the housing system in combination with the occurrence of disasters which is only felt and experienced by the marginal poor of the city. Bull-Kamanga et al., (2003: 196) summarises this problem in a concise manner by saying that:

"...cities can be seen as 'crucibles of hazards' that, without good management, generate extreme situations of vulnerability and risk for very large populations. Risk-accumulation processes in urban centres, such as ever-increasing numbers of people at risk from floods or accidental fires, are not so much inherent to urban development as produced by complex and dynamic interactions between human and naturally induced hazards and extreme conditions of vulnerability. The vulnerability of urban populations to disasters is not "natural", but is constructed and amplified by economic, social and political systems. Changes in these systems can greatly reduce these vulnerabilities."

1.5 Methodology

The purpose of this section is to set out the methodology to be followed in order to effectively answer, and give reasons for posing, the research questions of this dissertation. Broadly, this section will seek to provide a motivation as to why a case research methodology has been adopted, and what kind of a case method will be followed. African urban systems are highly complex: we require research methods that are capable of understanding and communicating this institutional, environmental and socio-economic complexity (AAPS, 2009: 5). The case study method can aid in the struggle for democratic, accountable, and inclusive planning practice by explaining how decisions are taken, to what end, and to whose benefit. Revealing power relations are vital to an understanding of unequal distribution of spaces and resources (Nnkya, 2008; AAPS, 2009: 6). The chosen research method as already established, is the case study research method, this section will further explain its importance within the African context as well as its strengths and limitations.

Research techniques include individual semi-structured interviews, policy analysis and a desktop study. The goal of this research method is to answer the main and subsidiary research questions.

1.5.1 The Case study method

The case study method is thought to be the appropriate method in order to gain a deeper more in depth understanding into the field of this research. The case study as a research strategy is an all-encompassing method covering a logic of design, data collection techniques, and specific approaches to data analysis, it is a comprehensive strategy (Yin, 2003:14). All countries are unique and contextually different, the case study is an important tool as it gives insight into the operational functions of government departments, power relations and beneficiaries.

Flyvbjerg (2011) describes the case study method as an intensive analysis of an individual unit (as a person or community) stressing developmental factors in relation to environment (Flyvbjerg, 2011: 301). Furthermore, Yin (2003) describes the importance of the case study method to be used by many institutions to contribute to knowledge of individual, group, organizational, social, political, and related phenomena. With regards to Flyvbjerg (2011) definition, it is important to clarify the "individual unit"; the case being researched is the OR Tambo TRA in Khayelitsha. OR Tambo TRA is the unit I will be focusing on, the area of land and people that live on the land. It is important to understand that the TRA forms part of a larger area which is Khayelitsha which in turn forms part of Cape Town. The research is focused on the OR Tambo TRA but lessons learnt from this case could be applied and add valuable meaning to the wider Cape Town area. Flyvbjerg (2011) definition describes case studies as being "intensive" which refers to the amount of depth and detail required when adopting this method. Case studies according to Flyvbjerg (2011) stress "developmental factors" refers to the evolution of the case over time, and by examining a case in this light it is easy to see what lessons can be taken and applied to cases that fit into a similar context. Lastly, Flyvbjerg includes the fact that case studies focus on "relation to environment" which is the context, context is important especially when doing research in the African context.

1.5.2 Strengths and Weaknesses of the Case Study method

Simons (2009) provides a good insight into the case study method's strengths and weaknesses. According to Simons (2009) the case study method allows for in-depth studies into policies, programmes, socio-political contexts that pertain to the case which is being studied. Which is important as the Emergency Housing Programme which provides Temporary Relocation Areas (TRAs) is a part of a policy and to understand this subsidy programme an in-depth review of housing

in the South African context is thus required to further understand the role and purpose of the Emergency Housing Programme and TRAs. Furthermore, Simons (2009) puts forth that this method is able to document multiple perspectives, viewpoints and demonstrate the actions of key role players and is able to answer how and why things happen. This is an important aspect of the case study method especially in the context of South Africa. The essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result (Schramm, 1971; Yin, 2003: 12). Simons (2009) further describes the process to be useful in exploring the process and dynamics of change as real life events and changes occur which Yin (2003) similarly describes the case study method that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are clearly evident (Yin, 2003:13).

The main weakness of the case study method according Flyvbjerg (2006) is that researchers cannot generalise from a single case study. Therefore, a common misunderstanding is that if researchers cannot generalise from their research findings, such findings fail to contribute to scientific knowledge. Flyvbjerg further argues that researchers can generalize about processes that shape change. Kruper and Kruper (1985) have a similar position through arguing that scientific discoveries have been made through intense observations than from statistics applied across units or to large groups. Flyvbjerg further contests against the weakness of the method by saying that formal generalisation is widely overvalued as a source of scientific development, while 'the power of the good example is under estimated' (Flyvbjerg 2001:77). With regards to the opposing arguments in using this method, my research aim is to give case specific recommendations however these recommendations will be based on the process of the system that involves Emergency Housing situations whereby other cases could also adopt it, if a similar situation should arise in the broader context of the City of Cape Town. Furthermore, recommendations are intended to be framed in a proactive manner so as to minimise the occurrence of disasters in informal settlements. Additionally, the recommendations have a strong focus on reducing risks present in these informal settlements.

1.5.3 Research Techniques

In order to come with an answer to my main and subsidiary research questions I will be using three research techniques: individual semi-structured interviews, policy analysis and a desktop study.

Individual semi-structured interviews:

Yin (2003) considers the interviews to be one of the most important sources of case study information. Interviews are essential sources of case study information as it gives a variety of viewpoints on the particular research area. There will be an element of guidance when asking questions but the aim of the interview is to be more conversational. The reason in adopting such an interview style is to make the interviewee feel comfortable and free to express honest and truthful feelings towards the research area. Additionally, having a semi-structured interview allows the researcher to cover a wide range of topics for the overall purpose of the research (Noor, 2008:1603). There are various forms of interviewing participants however for the purpose of this research the face-face interviews are preferred.

For purposes of an accurate account of events, interviews are tape-recorded and transcribed to reflect each participants view on the research area (Noor, 2008:1604). For the purposes of this research interviews will be directed to role players involved in the Case Study, Director of the Human Settlements Department City of Cape Town, Shehaam Sims; Human Settlements Planner, Susan Groenewald; OR Tambo TRA Project Manager, Waleed Adams and Head of Engineering Services Johan Gerber.

Policy Analysis:

Due to the research being based in the field of housing, within South Africa's context, housing is a constitutional promise. Therefore, a housing policy analysis is crucial to understand the context within which Emergency Housing and TRAs fits into. The aim of the policy analysis is to understand various roles of government department as well as how things are expected to work and how they work in the implementation process. Furthermore, it helps to clarify definitions; provides population statistics; housing requirements for example backlogs and current state of informal settlements.

Data Analysis:

In terms of data analysis, interviews will be recorded and transcribed and reported in an accurate and concise manner which will highlight both apposing and similar view points. Through analysing the data, where any irregularities are to be found follow up interviews is then requested which will offer clarity so as to report proper information.

Ethical considerations:

Ethical considerations are an important aspect when conducting research. All research participants are asked to provide their verbal consent before conducting the interview; the day of

the interview consent is signed and dated by the participant. The consent includes permission to record the interview, to use the participants name and to quote them directly in the dissertation. The participant also has the right to end the interview at any time if they would have the desire to do so.

1.5.4 Outline of dissertation

In terms of the overall structure of the dissertation, chapter one introduces the nature of the research and problem, explains the aim and scope of the research as well as includes the research method and techniques used to answer the main and subsidiary research questions. Chapter two gives a review of the literature that gives a theoretical underpinning for the research. Furthermore, the literature review explores the field under research, key changes and current debates. Chapter three is a contextual analysis of the case. After understanding the unique context and case study obtained from the contextual analysis, chapter four provides a policy and process recommendation. Additionally, chapter five discusses the implementation of the policy and process recommendations by explaining responsible stakeholder's, funding and determining phasing based on importance of the recommendation. Chapter six concludes the research and also outlines future researchable areas that fit into the nature of this research.

Chapter 2: Literature Review



2. Introduction

The aim of this chapter is to explore the field of emergency housing through its emergence as a response to the displacement of people as victims of human-made disasters. The emergence of this field of emergency housing has resulted particularly through the increase disasters or risk accumulation in informal/slum settlements. Emergency housing in the form of TRAs is a housing response that is needed to house people until adequate shelter can be provided. This chapter will briefly examine the role of urban planning in creating human settlements, furthermore urban disasters as being characteristic of 21st century cities it will go on to explain environmental change and urban risk, lower income settlement location to risk, furthermore the role of poverty and exclusion in increasing the impacts of urban disasters it will then conclude the section on the risk accumulation in cities. The next section will look at current practices in disaster management and emergency response in informal settlements and role players in disaster risk situations which is important in helping to identify roles and responsibilities. Furthermore, the role of urban planning in disaster management is explored following that section emergency risk response will be explored as well. One of the key things the literature review will explore is the twining of challenges faced by disaster risk reduction agencies. The integrated development approach is then explored based on the international shift in approaching development. Post –disaster literature is discussed in the form of designing to heal, this process should be used by urban planners and built environment professionals when dealing with places that have experienced disasters is further discussed in the section and then finally a concluding section which then sums up important points and relates it back to the nature of this research in the field of emergency housing and the development of TRAs.

2.1 Urban Planning's role in creating human settlements

The evolution of cities has generated conditions of developmental problems which has been a characteristic cause for an increase in poverty. This association between the development of cities and poverty is further explained by Watson, by the 1970s the role of cities in development was perceived by many as negative. Rapidly growing cities were described as 'parasitic' entities which absorbed public and private resources which resulted in ongoing poverty. Development problems in the form of poverty, unemployment, slum settlement, lack of services, and poor health are concentrating in growing cities located in the *Global South (Watson, forthcoming: 6).

Modern urban planning (Watson, 2009) arose in the industrializing world in the late 19th century as a very direct response to concerns of rapid urbanization, unhealthy and polluted living conditions for the poor, vanishing open green space, and threatened political upheaval as a result. Watson (forthcoming: 7) further expands on urban planning's role was to produce urban populations which

would lead ordered and disciplined lives, in healthy environments, and would develop and improve both physically and spiritually. Watson (forthcoming) further explains that from the 1950s onwards modern urban planning ideas were adopted by both *Global North and *Global South countries.

In some parts of the *Global South the planning of urban settlements was bound up with the 'modernizing and civilizing' mission of colonial authorities, but also with the control of urbanisation processes and of the urbanising population (Watson, 8). In many African countries because of its colonialist history and influences, their planning system is still based on legislation developed by Britain and Europe from the 1930s or 1940s, with only slight revisions. The most obvious problem with these forms of urban modernism is that they fail to accommodate the way of life of the majority of inhabitants in rapidly growing, and largely poor and informal cities, and thus directly contribute to social and spatial marginalisation (Watson, forthcoming: 8). Watson (Forthcoming: 8) further goes on to say that, in the Global North changes were made to planning legislation in post- 1960s as a direct response to neo-liberalism. Innovation took place in the following areas: planning processes and decision-making (shifts towards more participatory, democratic and integrated processes, involving wider groupings within and beyond the state); forms of spatial planning (towards more flexible and market-friendly strategic planning at a range of scales); linking planning and environment (new concerns of environmental sustainability, climate change and resource depletion); and some new directions in land use management (Watson, forthcoming: 8). This change was not apparent in the Global South (UN Habitat 2009 cited in Watson, forthcoming). Thus the global South has to deal with a backlog of problems that has failed to address the sustainable development of human settlements, environmental degradation, government inefficiencies and the shortage resources.

Pieterse and Simone (2013) describe African cities and towns to be are marked by intense almost embedded urban crisis. This crisis is visibly seen throughout African cities in the form of shantytowns and informality, 62% of African urbanities live in informal, auto constructed, makeshift shelters (Pieterse & Simone, 2013). Pieterse and Simone (2013) describe this as the urban reality of African cities. The current situation is quoted below by Banerjee et al., (2008):

Access to infrastructure services is more limited in Africa than in any other region of the developing world. Official estimates suggest that electricity is available to little more than 20% of Africa's population, versus 33% in South Asia, the next lowest region. Access to an improved water source is 56%, versus 78% in East Asia, while access to a piped water connection is just 12%. Access to improved sanitation, at 37%, is comparable to that in South Asia, but well behind the 50% reported for East Asia. Moreover, access to a flush toilet, which includes both water-borne sewerage and septic tanks is only 6%. The only exception to this pattern is telephone density (fixed plus mobile),

where Africa is somewhat ahead of South Asia; with 64 versus 56 subscribers per thousand people. Landline coverage increased dramatically to reach more than 7% of households in the early 2000s, while cellular telephones came from nowhere to reach 10% of households today

(Banerjee et al., 2008: 2 cited in Pieterse and Simone, 2013).

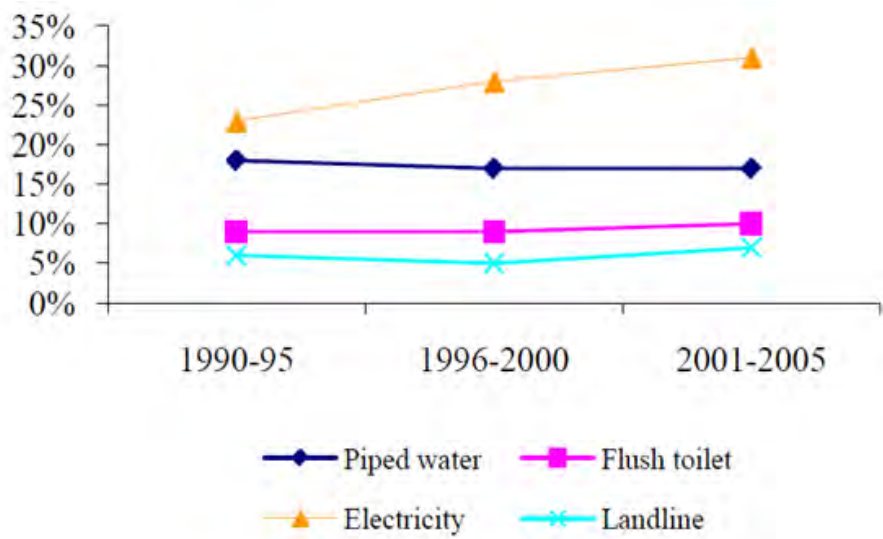


Figure 2: Infrastructure services in Africa, 1990-2005

Percentage of population with access to service (population weighted)

Source: AICD DHS/ MICS Survey Database, 2007 taken from Banerjee et al., 2008

Figure 2, is a graphic depiction of the what Banerjee et al., explains in the quote above, the backlog of service provision currently evident in across African cities.

The 21st century has signified the disjuncture between prevailing planning systems and the nature of fast changing 21st century cities (UN Habitat, 2009: 5). Planning can be used as an essential tool to address some of the issues that confront cities, especially sustainable urbanisation (environmental, economic and social), slums and poverty, urban crime and violence, and post-conflict and

*Global North countries refer to the economically developed countries.

*Global South countries refer to the less economically developed countries.

post-disaster situations (UN Habitat, 2009: 6). Planning's role is therefore critical in addressing the growth of informality in cities as well as urban growth. Sustainable urbanisation is crucial in negating effects of urbanisation on the environment, people and government structures.

Introducing urban planning in post-conflict/ disaster situations is a crucial step for sound urban development; It also allows for more efficient use of limited local physical, human, technical and financial resources; post-disaster situations offer urban planning a unique opportunity to rethink past development practices and effectively prepare communities against threats and risks

(UN Habitat: 2009:6).

The UN Habitat (2009:6) identifies new approaches to urban planning which are namely; strategic rather than comprehensive; flexible rather than end state oriented; action and implementation oriented; stakeholder or community driven; reflect emerging urban concerns; play an integrative role and focus on the planning process. These new approaches should be applied to urban planning legislation within the Global South in order to address the issues that have been uncovered in the development of the 21st century cities.

2.2 Urban disasters as characteristic of 21st century cities

This chapter relies on a lot of Mark Pelling's work, for the purposes of clarifying why his voice and opinion is so strong he will be the only literary author contextualised. Mark Pelling is a Professor of Geography and he writes about Disaster Risk Reduction, Climate Change Adaptation, Urban Political Ecology (Google Scholar, 2014). His writes on human vulnerability and adaptation to natural disasters and climate change (King's College London, 2014). His work has focussed on the UK (heatwaves in London and the vulnerability of the elderly) and Latin America and the Caribbean (Barbados, Brazil, Dominican Republic, Guyana, Haiti, Mexico) examining governance of risk management, especially in urban contexts where poverty, public health and disaster risk and their management have many synergies (King's College London, 2014). Recent work has broadened into comparative work with colleagues in Africa and Asia, he also serves as a lead author for the Intergovernmental Panel on Climate Change and has consulted for UNHABITAT and many humanitarian NGOs (King's College London, 2014).

Within the context of this chapter as it further develops 'urban' is defined according to its economic functions; where secondary (industrial, manufacturing) or tertiary (service) sectors dominate over the primary (extractive agriculture, forestry, mining etc.) sectors found in rural areas, by population density or size, or simply by administrative region, where all land and activities lying within a

metropolitan district become 'urban' (Pelling, 2003: 19). In disaster risk literature, growth in urban disaster is often explained through the spatial expansion of cities and its population (Pelling, 2003). Hewitt (1997 cited in Pelling, 2003:22) argues that the dense pattern of urban living also contributes to risk generation. Hewitt (1997) further contends that cities are complex systems with many interactions between different elements some are less predictable than others. This alone cannot be held accountable for the increase in urban disasters. What is important to understand is that the urban political economy is also important in shaping geographies of urban disaster (Pelling, 2003: 21). On this note Hewitt (1997) also makes mention of the fact populations become targets of political exploitation or repression.

2.2.1 Environmental Change and Urban risk

There is a strong relationship between environmental change and urban risk. Pelling (2003) describes human modifications to the environment increases risks in urban settlements. Consumption and overexploitation of natural services and assets done by formalized industrial areas generate new hazards in urban areas which is often impacted on the urban poor (UN Habitat, 2007: 185). New patterns in temperature and precipitation will, in some cases, alter the habitability and stability of residences, while increased frequency and intensity of natural hazards will place settlements and homes at greater risk (Baker, 2012: 39-40).

The negative effects of these risks generated within cities are experienced by the urban poor located on the periphery of cities in slums. Slums or slum settlements are not spatially represented in a clear cut manner but there various spatial definitions, the most common are; squatter settlements on public or private land; illegal commercial suburban land subdivisions on private customary land; overcrowded, dilapidated buildings in city centres or densely urbanised areas (Pelling & Wisner, 2012: 19). The poor tend to live on the most vulnerable land within cities, typically areas deemed undesirable by others and thus affordable (Baker, 2012: 1). The persistent re-urbanisation of hazard sites, without mitigation efforts, also adds to the impacts disasters can have on these affected populations (Pelling, 2003: 27). Changes in natural landscapes caused by development increase surface runoffs and result in an increase of floods or landslides (Pelling, 2003:27). Environmental degradation within the city often results in a multitude of comparatively small and localised disasters. Examples include flooding, fires and landslides (Pelling, 2003: 34-35). Just as Pelling (2003) has given examples of localised disasters, Baker (2012: 1) also describes how residents living in undesirable locations are exposed to the impacts of at times uncontrollable hazards such as sea-level rise and flooding. Exposure to risk is exacerbated by overcrowded living conditions, lack of

adequate infrastructure and services, unsafe housing, inadequate nutrition, and poor health (Baker, 2012: 1). Poor living environmental conditions are able to swiftly turn a natural hazard or change in climate into a disaster, and result in the loss of basic services, damage or destruction to homes, loss of livelihoods, malnutrition, disease, disability, and loss of life (Baker, 2012: 1).

2.2.2 Lower income settlement location to risk

In many cities of the Global South there is a common problem with the provision of adequate housing and services for the poor. It is the common practice in these cities that people are excluded from the formal housing market based on their economic poverty and disempowering financial legislation which makes it difficult for low and middle income earners to obtain loans to build or buy dwellings in planned developments (Pelling, 2003: 28). Therefore, the peripheries of cities grow more rapidly as more people become excluded from the formal housing market because of their situation of economic poverty. Rapid occupation of these hazardous areas means it is not possible to keep up to date urban risk maps or data on land use and the housing market up to date (Pelling, 2003: 29). Also, governments struggle to keep service provision up to date due to the rate at which these areas expand, this further compounds hazards and issues. Due to the unplanned ad-hoc nature of development in informal peripheral areas it is both a challenging and daunting task to intervene to lower risk levels. Pelling & Wisner (2009) state that unplanned and rapid urbanization provide conditions for natural events to become disasters. The expansion of urban areas is often a symptom of piecemeal urban development and a lack of strategic planning (Pelling, 2003: 29). Pelling and Winser (2009: 6) note that there is a positive aspect to the rapid expansion of urban development in that it provides a critical mass of human skill and capacity that can be directed towards reducing risk and coping with the impact of disasters. The UN Habitat (2007: 201) further describes this as where hazards and loss are tangible, disaster risk reduction or reconstruction can be opportunities for improving solidarity, inclusiveness, human skills and confidence of local groups and their leaders.

2.2.3 The role of poverty and exclusion in increasing the impacts of urban disasters

Cities in the Global South have a lack of understanding and appropriate policy responses to the problems around urban vulnerability to environmental risk; this is a failure of the planning systems ability to be innovative and proactive to problems surrounding the evolution of urban development (Pelling, 2003). Baker (2012: 51) identifies a number of key issues that affect the vulnerability of the urban poor, Baker (2012) further describes these factors as affecting their sensitivity and adaptive capacity to climate change and disaster risk, among these are security of tenure; employment; financial insecurity and social networks (Baker, 2012: 51). An additional

challenge is that these poor people are unable to access the formal housing market which has adequate service provision, through this inability it excludes them from the opportunities offered in the core areas of urban developments. Currently for people located in the periphery the situation can be described as 'Within the same city, city centre households have access to employment but need to pay high rents, whilst the peripheral locations have lower rents but the cost of transport into the city for work is high (Satterthwaite, 1997 cited in Pelling, 2003: 30). Pelling (2003) further argues that failure to recognise the scale of urban poverty has contributed to the slow realisation that many urban populations are vulnerable to disaster.

2.2.4 Concluding remarks on the risk accumulation in cities

As aforementioned, few would dispute that hazards are having a growing impact on human society: ironically both as a consequence of greater affluence and greater poverty, of larger cities and more costly infrastructure and greater environmental degradation caused by overpopulation and unsustainable urban practices that have been described in this section (Bankoff, 2001: 19). Cities are highly vulnerable to the effects of natural and human-made disasters due to a complex set of interrelated processes (UN Habitat, 2009: 14). Human-made disasters have seen a tenfold increase from 1975 to 2006 (UN Habitat, 2009: 14).

It is also important to understand within the context of the marginality in the Global South, where planning legislation and tools are still much the same as in the 1940s and 1950s (Watson, forthcoming). Therefore the scale of the disaster in cities of the Global South is so often the result of the lack of attention given to reducing the vulnerability of people, structures and systems to these events before they occur, by governments and communities (and international agencies) (Bull-Kamanga et al., 2003: 200). Those most at risk are the vulnerable populations as aforementioned, this is not simply because they are exposed to hazard, but as a result of marginality that makes their life a 'permanent emergency', this term Cirolia (2014) refers to when explaining the accumulation of risks in informal settlements. The incorporation of the temporal dimension does not make the condition of vulnerability synonymous to a state of poverty. Poverty and vulnerability is signified by historical processes, that deprive people of the means of coping with a hazard without incurring damaging losses that leave them physically weak, economically impoverished, socially dependent, humiliated and psychologically harmed (Chambers, 1989: 1, cited in Bankoff, 2001: 25).

The same is true for epidemics and most fire in urban areas, the disastrous loss of life, scale of injuries, damage to property and loss of livelihoods from such events is, in large part, the result of

inappropriate or no urban management; There is little that is "natural" about most floods in growing urban centres, for instance, as they are caused by the ways in which urban development has reshaped the landscape and flows of water. Thus, there is a need to integrate into urban management (and urban governance structures) the identification of disaster risks and measures to reduce these risks and the vulnerability of urban populations to these risks. This means a critical shift in who is seen as responsible for addressing disaster risk

(Bull-Kamanga et al., 2003: 200).

It is important to note that disasters emerge as a result of interaction between humans and the environment. In particular they arise where there is a lack of "mutuality", a measure of both how well society is adapted to the environment and how well that environment fares at hands of human activity (Oliver-Smith, 1999: 26 cited in Bankoff, 2001). It is these conditions that turn a natural phenomenon or hazard into a social crisis or disaster. At its most extreme, it can be argued that disasters are always present or embedded in the local level society and that a hazard simply provides that catalytic agent to produce intense social crisis (Watts, 1983 cited in Bankoff, 2001). It is the pre-disaster conditions that affect society's ability to cope with hazard, thus as Bull-Kamanga (2003:200) points out it is important to identify who is responsible for addressing disaster risk.

2.3 Current disaster management practices

In most *developing countries, informal settlements have marked the urban landscape for at least half a century (Huchzermeyer & Karam, 2006: 1). As the literature has highlighted, informality breeds risk, hazards, disaster and vulnerability (Huchzermeyer & Karam). Given that there is a substantial demand for formal low cost housing options from slightly better-off households in most developing countries, the market ensures that such improvements are traded to a social class other than the original informal settlements dwellers (Huchzermeyer & Karam, 2006: 5). It is undisputed that local knowledge and awareness is equally important to professional knowledge when it comes to understanding context. Thus this is the reason why there is a fear in displacement, and associated loss of livelihood and devastation, when upgrading plans are at implementation phase (Huchzermeyer & Karam, 2006: 5). Instead of addressing these insecurities, politicians go ahead with development and the result is displacement of the poor as they are moved into locations that

*Developing countries also means global South countries within this dissertation

increase their already existing vulnerability (Huchzermeyer & Karam, 2006: 5). As a result people develop new informal settlements which does not address the problems associated with informality. Informality has been referred to as the “risks of daily of daily life” (Wisner, 1993 cited in Pelling & Winser, 2009: 38). Insecure land tenure in cities is arguably the most important single constraint shaping a disaster resilient city (Pelling & Winser, 2009: 38).

Pelling, 2008: 186 (cited in Pelling & Winser, 2009: 38) explains:

The most important physical asset for the urban poor and basically everybody is housing. Housing provides personal security, but can also be a livelihood resource....lack of secure tenure reduces people's willingness to upgrade and therefore mitigate local environmental hazard. Renters as well as those living in squatter settlements are at risk from eviction.

The UN Habitat (2007: 114) further describes tenure security as being a basic attribute of human security in general, furthermore when security of tenure is threatened or non-existent, the full enjoyment of housing rights is virtually impossible.

Even though there is a lack of land for formal housing to accommodate the urban poor. There should be formal approaches in addressing urban safety within the context of disaster risk. Pelling & Winser (2009: 39) places this approach to be the responsibility of the ward or neighbourhood committees where there work should include risk awareness and disaster mitigation. Notwithstanding the fact that urban safety is also the responsibility of other professional and administrative departments, these include police and fire services; healthcare and public health; public works and education; housing and community organisations; transport and engineering services; infrastructure and bulk infrastructure management (Pelling and Winser, 2009). There has been international encouragement in that it is a multiple shared responsibility, from the United Nations International Strategy for Disaster Reduction (UN-ISDR, 2005) as well as the Millennium Development Goals which aims at improving the lives of 100 million slum dwellers by 2020; these provide an important opportunity to make disaster risk reduction an important urban priority in 21st century city development (Pelling & Wisner, 2009).

2.3.1 Role players in disaster risk reduction

Disaster risk reduction initiatives include individuals, households, communities, and society as a whole (Pelling and Winser, 2009: 46). As aforementioned there are various actors with a unique role in the emergency response field. According to Pelling & Winser (2009: 43) the actor with the single greatest potential to contribute to urban disaster risk reduction is the local or municipal

government. Pelling (2008 cited in Pelling & Winsor, 2009: 44) identifies the following contributions of local government to urban disaster risk reduction, it is important to bear in mind that urban disaster risk reduction has multiple activities as well as stakeholders, the following list ranges across all those involved in the risk reduction process:

- a) Land tenure regularization and upgrading of settlements;
- b) Relocations of settlements at high risk;
- c) Land-use planning to inform new construction;
- d) Updating and implementing building codes for disaster resistant housing and places of work;
- e) Protecting critical infrastructure;
- f) Improving early warning systems

Local government has a very important role in disaster management as it has access to all those involved in the process. In the case of a disaster local government has an important role to play in coordinating the function of other involved stakeholders and those affected by the disaster. The private sector is often not seen as a friend of planning due to bad perceptions, though it is important to understand the private sectors role in development planning. These bad perceptions are a result of often contested developments that is driven by the private sector. These developments have no social benefits to the rest of society and are largely driven by economic gain. Interestingly enough, the private sector provides and manages potable water, electricity provision and solid waste management. Local Non-governmental Organisations (NGOs) play a role in strengthening livelihoods in local communities as well as local health care provision. It is important to identify that the challenge in disaster risk mitigation strategies is bringing together all stakeholders with their roles and responsibilities to work as a uniform whole.

2.3.2 Urban Planning's role in disaster management

Disaster interacts with many aspects of urban planning (Pelling, 2003: 34). Many analyses of disasters have shown that losses are heavily concentrated amongst lower-income groups and other groups with the least political power. Meanwhile, the more powerful vested political and economic interests and the wealthier households are often protected from disasters. Politicians may even "benefit" from disasters, for example by being seen to respond when a disaster occurs, when they should have acted before it occurred to reduce the risk (Bull-Kamanga et al., 2003: 200). The paradoxical argument is that at times disasters are seen as an opportunity to renew a sense of faith in

governance; economic growth; job provision and new infrastructure these aspects are at most times not a feature prior to the disaster occurring. Post disaster rebuilding efforts in developing countries, or at least in wealthier developing countries like Brazil and South Africa, there is indeed a tendency to use the rebuilding process as an opportunity to upgrade infrastructure that might otherwise have been allowed to grow obsolete (Curry, 2013). The tragic side of this argument is that disasters kill people, often in great numbers, and uproot many more (Curry, 2013). Pelling (2003: 34) refers to the fact that inappropriate planning and legislation can exacerbate vulnerability. Which is often the outcome of the aforementioned piecemeal approaches to development. Furthermore, if the disaster economists are right, calamities are simply pushing societies to make the sort of sound economic decisions that inertia, fear or bureaucratic sclerosis prevents them from otherwise making (Curry, 2013). Governments and businesses might do well to adopt some of the urgency and innovation of a post-disaster mind-set even in more clement times (Curry, 2013).

Urban planning's role is challenging in disaster management as most cities that face the challenge of disaster response are often those that were previously colonised (Pelling & Wisner, 2009: 34). The spatial pattern of previously colonized cities is often segregated with core and peripheral areas. More often than not these cities are characterized with fragmented government structural arrangement which poses an additional challenge to urban planners. However there are valuable planning tools that can be used in disaster risk reduction (UN Habitat, 2009). The UN Habitat (2009: 15) further expands and explains tools that can be used; land use planning can be used as a valuable tool for mainstreaming disaster risk reduction into urban development processes. Land use planning provides a framework within in which interventions to partner local actors for risk mapping and community resilience building can be undertaken. This includes partnerships between municipal governments, community groups and the private sector. Familiar planning tools such as zoning, community participation, Geographic Information Systems, and information and education programmes are all essential to mainstreaming risk reduction into the land-use planning process (UN Habitat, 2009: 15). Urban planning has the ability to develop building codes that can ensure safety standards in components of the built environment. In the context of informality, should a situation of informal upgrading occur, land use planning can provide a framework for minimum standards to be adhered to. These building codes can ensure that construction meets minimum standards of disaster resilience (UN Habitat, 2009: 15). Urban planning can contribute to post-disaster rehabilitation of human settlements. Partnerships with community groups and international development and humanitarian agencies are necessary in post-disaster planning. Post-disaster

situations, particularly in developing countries, offer urban planning a unique opportunity to rethink past development practices, improve the sustainability of human settlements and effectively prepare communities against risks (UN Habitat, 2009: 15). Urban Planning has a critical role in allowing disaster management to be proactive rather than reactive through increasing resilient infrastructure; location of settlements; settlement typology; implementing processes than allow for integrated development based on sustainable development practices (UN Habitat, 2009).

21st Century planning in countries and cities of the Global South needs to address the problems of slums and poverty, as well as the rate of the increase of informal settlements. The role and responsibility of government and the private sector in development practices. Most importantly, using urban planning as a tool to mainstream disaster risk reduction into urban development processes (UN Habitat, 2009: 16).

2.3.3 Emergency risk response

Risk management is applied when development planning and regulation fail to prevent the accumulation of risk. The risk accumulation that is ever present in informal areas accumulates because of lack of hazard control. Hazard control refers to the inability to manage everyday hazards such as the inadequate provision of daily services (Bull-Kamanga et al., 2003). Risk management tasks include citywide and local initiatives aimed at reducing human vulnerability and environmental hazard (Pelling & Winser, 2009: 54).

According to Field (2012) early warning risk management systems can provide a basis to significantly reduce the impacts of disasters especially on those most vulnerable. Field (2012) also says that cities are particularly difficult to manage when it comes to risk management as they are multi-dimensional with the multi-hazard environment. Government controlled warning systems need to be able to respond both small disaster and large disasters. Warning systems need to be able to reach the urban core areas as well as those located in the periphery. Warning systems should be designed to provide knowledge to national government as well as to be translated to the local context. There needs to be political commitment; coordination among all stakeholders in disaster reduction; public awareness and participation in the development and operational requirements for efficient early warning systems (Field, 2012).

Pelling & Winser (2009: 58) highlight the fact that although there is an awareness of the need for quick emergency response, it is difficult to build institutions that can operate during emergencies and in post-disaster recovery. Pelling & Winser (2009: 58) further expand that in municipal and

national government as well as civil society organisations, day- to- day concerns take precedence so that even where organizational structures are designed, they may not function well when needed. Furthermore, Pelling & Winser (2009) explains the importance of early warning systems within cases of post-disaster communication and coordination. Early warning systems seem to work best when they are built onto existing institutional relationships that are in use every day, so it becomes the norm to be more responsive and proactive rather than reactive, it will also assist in lessening the effects of disasters (Pelling & Winser, 2009). The extent to which risk reduction is built into reconstruction depends on pre-disaster planning and post-disaster coordination, which is the role of various stakeholders within both public and private sector. In the case of large disasters, external agencies from national government or international humanitarian community can overwhelm local organisations. At times reconstruction has been counter developmental, generating, inequality as low income (but often high value) residential land is redeveloped for commercial or high-income residential use. Social tensions may rise when survivors are relocated into existing communities. Relocation should be a last resort as it further exacerbates the impacts of the post-disaster recovery. Government must refrain from this practice unless as a last resort and provided there is consent from those affected, clear timelines on how long people will have to remain in temporary accommodation, and information on when and where permanent formal housing will be made available to them (Tissington, 2009). Success measured in improved livelihood opportunities in the case of post- disaster recovery and access to critical infrastructure is uncommon (Pelling & Winser, 2009: 59).

2.4 The twining of challenges faced by disaster risk reduction agencies

Due to the complex nature of disaster risk management and mitigation and risk reduction in informal settlements, a twin challenge has been identified. One is the problem of coherence, which refers to the complexity of the problems in its ability to be solved across institutional boundaries, mandates and disciplinary perspectives. The other is globalisation which refers to the increasing number and intensity of external drivers of risk that need, somehow, to be anticipated and engaged, not only through local adaptation but also strategic national, regional and global scales of the political economy (Benouar, D et al., found in Pelling and Wisner, 2009: 197). The twinning of challenge can be solved through the well-functioning of cooperative governance which becomes resilient to global factors affecting local conditions and functions in a manner where structures have clearly defined roles and responsibilities. Malan (2005:226 cited in Mokoena & Marais, 2007) acknowledges that proper cooperative governance is required to make projects work effectively.

The process of integrating risk reduction into planning and development processes requires getting urban planners, development workers and government administration to see that risk reduction is something that is relevant to them and something that they should care about. Urban risk management has the ability to contribute significantly to the democratizing of development and move towards achieving human right to security from avoidable harm for all (Pelling & Winsor, 2009: 209-210).

2.5 Integrated Development approach

Integration can mean many things (including spatial integration of different land uses and integration of different socio economic groups), but the overarching meaning of an integrated development approach is that physical development should always occur as a part of a broader social and economic development strategy aimed at addressing poverty (Smit, 2006: 5). Through approaching this integrated development approach disaster risk reduction strategies can be incorporated into broader spatial development frameworks to alleviate the accumulation and occurrence of disaster events. There has been a shift internationally towards focusing on poverty alleviation and socio-economic issues in urban development interventions. Urban development strategies should provide more than shelter. The provision of housing and security of tenure is an ever important aspect as established previously in this chapter; however it needs to be provided in an integrated manner. Arguably, if people have access to socio-economic opportunities that can adequately maintain and afford their form of adequate shelter. Housing subsidies are social policy instruments, but they are not stand alone instruments they need to complement other social policy instruments, such as family assistance, livelihood programmes, redistributive pension systems or general social assistance (Hall and Pfeffer, 2000, cited in Smit, 2006: 5). Linkage between the provision of housing and anti-poverty measures can be seen within the context of sustainable livelihoods (Smit, 2006: 5).

Developing sustainable livelihoods should be based on the goal to “make all cities socially inclusive, economically productive, environmentally sustainable, and resilient to climate change and other risks” (Sustainable Development Solutions Network, 2013). Through the development of the integrated approach cities can become more resilient to risks. This approach to development based on sustainability cities will be able to “develop participative, accountable and effective city governance to support rapid and equitable urban transformation” (Sustainable Development Solutions Network, 2013). An essential motivation of an integrated approach to development is that urban poverty is complex and multi-dimensional, and single sector interventions cannot sustainably

improve the shelter conditions of poor livelihoods, improving livelihoods involves building human capital through skills development, strengthening community based groups and facilitating access to credit so as to afford housing and adequate shelter as well as reviewing regulatory frameworks (Smit, 2006: 6). Moreover, an integrated approach, it is important that all facets of poverty are addressed through a multi-faceted strategy that includes improving social capital, human capital, financial capital and physical capital (Majale, 2003 cited in Smit, 2006: 6).

The housing policy in South Africa has been designed to fulfil what it means to have 'adequate housing', Tissington (2010) explains the difficulty in defining what it means to have adequate housing. Tissington (2010: 28) goes on to say that what constitutes adequate housing depends on the specific context, as well as circumstances of households and individuals, and their needs and priorities. The South African urban landscape is often described as being spatially fragmented (Tissington, 2010; Pelling 2009; Turok & Watson, 2001). The idea behind providing adequate housing has been proven to mean more than just shelter, which was highlighted by the Grootboom case which was a benchmark case that went beyond housing, and applies to the realisation of all socio-economic rights (Tissington 2010; Huchzermeyer, 2003). Grootboom is the first significant case brought before the Constitutional Court in terms of section 26 of the Constitution (Tissington, 2010: 16). The case began with the eviction of 900 people from a piece of privately- owned land, including the main applicant in the case, Irene Grootboom (Tissington, 2010: 16). Following the eviction the affected parties built makeshift shelters on a sports field (Tissington, 2010: 16). The Grootboom judgment revealed the Constitutional Court's thinking on socio-economic rights enforcement and highlighted its developing stance on 'progressive realisation' and minimum core obligations (Tissington, 2010: 17). Furthermore, the judgment also revealed that a reasonable government programme must provide for those in urgent need and living in 'intolerable conditions' and that the provision of a basic level of services need not meet the qualitative standards implied by the full realisation of the relevant right (Tissington, 2010: 17).

After researching land and housing options in the poorer parts of South African cities, Smit (Tissington, 2010) developed a matrix to assess housing's adequacy in terms of key criteria (Tissington, 2010: 28). The criteria was developed through an all-encompassing research process includes adequacy of location; adequacy of shelter; affordability (in terms of upfront and ongoing costs); adequacy of services (water, sanitation, energy supply, etc.); adequacy of space; physical security; security of tenure; future prospects of RDP housing; and accessibility or availability

(Tissington, 2010: 28). Smit (Tissington, 2010) also notes that all the major land/housing options currently available to poor households have serious inadequacies. Although poor households are, for example, able to access relatively good locations and affordable accommodation in informal settlements or adequate shelter/services and secure tenure in RDP housing settlements, they are seldom able to adequately satisfy all minimum requirements simultaneously (Tissington, 2010: 29).

The fear of relocation by informal residents is embedded in their day to day living in situations of emergency. Through an integrated development approach based on the principles of sustainability, relocations and evictions to temporary relocation areas needs to be monitored according to a well-defined timeline, that still makes it 'temporary'. For example, in Cambodia, there was a six month moratorium of relocations and evictions while decisions were made on which informal settlements should be relocated and which should be upgraded (Smit, 2006: 7). The moratorium revealed 12 year community leases and 10 year sub-leases, with the option, at the end of the 10 year period, for extending or upgrading the lease or of terminating the lease with market-related compensation for improvements (Payne, 2003 cited in Smit, 2006: 7). Upgrading of informal settlements is an important process to improve the livelihoods of many of the urban poor who live in ominous situations. Upgrading of informal settlements through adequate housing provision has the ability to reduce human-made disasters that occur in areas of informality. Additionally, regulatory frameworks, planning and building regulations should not be seen as barriers to development (Smit, 2006:7) but should be regarded as instruments of ensuring that all developmental needs are met in new areas of development.

2.6 Designing to Heal

Designing to heal is about cultivating the changes needed in hearts and minds and on the ground to help people recover and communities to renew themselves after disasters (Donovan, 2013: 239). People's experiences of disasters are different. The process by which people go through in experiencing disasters is important to understand for the designer/planner involved so that they may help in facilitating the process leading up to recovery as illustrated in figure 3. It is important to understand that urban planners and built environment professionals cannot make a place conducive to recovery and renewal alone, the process needs active participation of the people who will live, own and otherwise care for that place (Donovan, 2013: 240). The design to heal process is based on the tool of participation of the affected and local community. However, the

Process to post-disaster recovery



Figure 3: Diagram illustrating the process to post-disaster recovery

Source: Information adapted from Donovan, 2013: 45 and illustration done by Author, 2014. Table mountain imagery provided by the reference on the diagram.

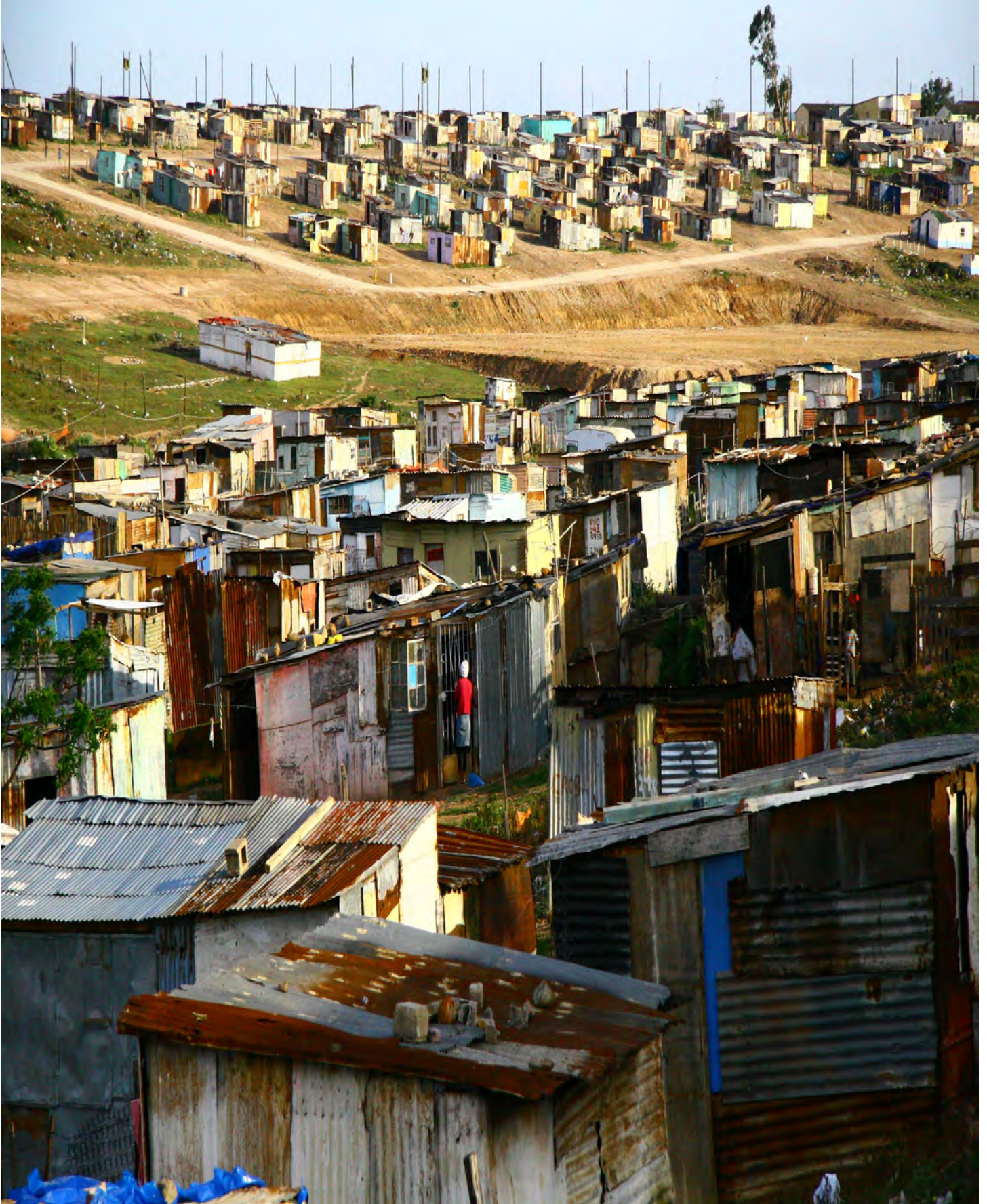
challenge for the built environment professional is incorporating different and conflicting mindsets and ideas in a single design or plan (Donovan, 2013: 242). The process involved in restoring, rehabilitating and designing new places for people affected by disasters should involve these steps: manage expectations especially those from vulnerable positions; be transparent and open about resources and your ability to implement change in your professional capacity; be accessible and use expert knowledge so that locals may understand what is happening; empower people through the acquisition of knowledge and identify the common ground between and those affected by the disaster (Donovan, 2013: 243). Places that have been designed to heal offers the following opportunities, invites occupation especially as it address all aspects of an adequate living environment; resonate with the community; enables a diverse people to get from it what they need; flexibility which means it can be used by many people from different backgrounds and is not robust it offers a wide range of opportunities to use the space for various needs and wants; connected and provides reassurance that should a disaster re-occur people will be able to respond to it and overcome any difficulties it poses (Donovan, 2013: 261).

Ugur (2014: 3) says that Donovan (2013) reaffirms the necessity to look beyond immediate outputs and proactively consider the longer-term legacy of post-disaster interventions. Furthermore, Ugur (2014: 3) says that the design to heal process covers a vast spectrum of ideas that facilitate socially orientated design and thus constitutes what may be deemed to be a valuable toolkit of insight to urban designers, planners and architects alike in understanding what it means to design with communities as opposed to delivering predetermined solutions.

2.7 Conclusion

This chapter has explored the role of planning in reducing disaster risk that accumulates in informal areas of cities, through better addressing risk accumulation it will result in having to make less provision for emergency housing or TRAs. However, should a situation of disaster arise, impacts should be controlled through including disaster risk reduction in broader strategic frameworks that include early warning systems however, should the impacts be felt on a large scale by displacing people, TRAs or emergency housing should be considered as a last resort option while coming up with a better suited alternative that is more sustainable. Additionally the chapter has outlined ways to be more proactive so as to minimize the impacts of disaster or to mitigate them completely. The concluding section of this chapter speaks about process to post-disaster recovery, it is important to acknowledge the fact as Donovan (2013) has pointed out, that “Disasters destroy not only things and people but also the bonds between them, unravelling the fabric of community” (RTPI International Development Network, 2013: 1). As expanded on the chapter, it is important to plan ‘with’ the local community than for ‘them’, as the planning process is also a healing process and as a professional or planner you should show empathy to the nature of a post- disaster situation.

Chapter 3: Contextual Analysis



3. Introduction

The aim of this chapter is to give a deep critical analysis of the Case Study area and the legislative and institutional environment in which it is found. The current state of the case study area, its relation to broader policies and plans and risks will be analysed and contextualized in this chapter. The literature review has given theoretical framework about the nature of this research. The analysis presented in this chapter relies on desktop research, and is informed by interviews with government officials. As aforementioned section 26 of the South African constitution aims to provide adequate housing for all, the implementation of emergency housing in the form of temporary accommodation is referred to as a failure as it would not constitute a reasonable measure within the meaning of section 26 of the Constitution, nor would it constitute the progressive realisation of the right of access to adequate housing (Tissington, 2009). Based on this premise this chapter will analyse the case study of the OR Tambo TRA in Khayelitsha. This chapter is structured through an analysis of the South African Housing Policy post 1994 its influences and implementation; furthermore the South African Disaster Management Act will be reviewed; additionally an analysis will be done of the department responsible for implementing housing in South Africa their roles, functions and responsibilities will be explained. Thereafter an analysis of the spatial planning context of Khayelitsha, this section refers to an analysis of planning tools in relation to Emergency Housing and the site Khayelitsha. The case of the OR Tambo TRA will be reviewed and interviews with government officials involved in the development of the TRA will be tied in to further understand intentions behind the development of the TRA. Moreover, an evaluation of the OR Tambo TRA will be done based on a matrix developed by Smit (Tissington, 2010) and lastly key priorities will be identified based on contextual analysis of the site, and its institutional and legislative environment.

3.1 South African Housing Policy Analysis

International trends and programmes have been based on slum eradication on a global scale. First, it is important to pinpoint that South Africa is a party to the UN Millennium Development Goals (MDGs) which provides under Goal 7 Target 11 to ensure that the lives of over 100 million slum dwellers are significantly improved by the year 2020. The country also holds fast to several important declarations under the UN Habitat Programme. These include the Vancouver Declaration on Human Settlements (1976), the Istanbul Declaration on Human, and Other Settlements (1996), as well as the Habitat Agenda (1996), which all aim to alleviate the plight of people without access to adequate housing (National Housing Code Part 3, 2009, 9). Thus, it is imperative to the South African

government that Informal settlements upgrading programmes are aligned with this goal (Ziblim, 2013:19). Interestingly enough, South Africa has been more ambitious than the international benchmark and government officials such as Mabuyakhulu (2008) on behalf of the South African minister of housing, Sisulu (2008) has went on record to say that they want to eradicate all our slums by 2014. As mentioned in the literature review, informal settlements/ slums create risk accumulation within cities. Thus it is important to understand housing policy and informal upgrading policy so that these tools can be used to reduce risk accumulation in settlements as well as deal with cases of disasters.

South African's housing policy was based on international good practice during the early 1990s (Smit, 2006: 1). Policy development post 1994 was aimed at being transformative in the light of change as per the new vision of Post-Apartheid South Africa which was aimed to become an inclusive South Africa for all. The Housing policy and strategy (1994) focused on stabilizing the environment to transform the extremely fragmented, complex and racially based financial framework inherited from the previous government, whilst simultaneously establishing new systems to ensure delivery to address the housing backlog (Department of Human Settlements, 2004: 1).

The Department of Human Settlements (DHS) has acknowledged the need for a paradigm shift and its 2004 Breaking New Ground (BNG) policy epitomises a somewhat more progressive and holistic approach to human settlement making (Tissingoton, 2010: 29; Department of Human Settlements, 2004). The Breaking New Ground (BNG) Policy aim was to 'build a non-racial society as long it was well managed', others decried the impact of such an intervention on their property values, fuelled partly by not-in-my-backyard emotions and fears around race and class integration (Charlton & Kihato, 2006:256). The Emergency Housing Programme is part of the Breaking New Ground (BNG) policy. The plan has clear objectives in that housing provision should address poverty alleviation, economic growth and improve the quality of life for the poor, creating an asset for the poor and ultimately developing sustainable human settlements (Department of Housing, 2004 cited in Charlton & Kihato, 2006: 257). Here again it is evident that the role of international organisations has influenced the development of legislation, the notion of "sustainable human settlements" comes from the United Nations Habitat Agenda from the 1990s (Charlton & Kihato, 2006: 257). The Breaking New Ground (BNG) aim has also been to eradicate slums as it is not a sustainable form of human settlement.

3.1.1 The development of the Upgrading of Informal Settlements Programme (UISP)

As part of the Breaking New Ground policy the Upgrading of Informal Settlements Programme (UISP) was developed which was once again influenced by the international shifts and came about as a result of a growing consensus to develop the need for such a programme (Huchzermeyer & Karam, 2006). They were reinforced internationally by initiatives in response to the United Nations Millennium Developments declaration addressed at poverty alleviation globally; as well as the World Bank/ UN Habitat initiative called "Cities Alliance" (Huchzermeyer & Karam, 2006).

Huchzermeyer (2006:1) refers to informal settlements as places that occupy contested spaces in our cities. Informality plays a role in shaping our hugely inadequate cities, that are products of discriminatory and repressive apartheid planning and further expanded by powerful and far from equitable market processes, driving apartheid's planned inequality and exclusion even deeper, and effortlessly overriding attempts at urban democratisation and integration. Thus the long term vision of the programme is to address the barriers faced by occupants of informal settlements. Interestingly, the development of the programme came from a high level of political prioritization over slum eradication and its formulation because of time constraints did not allow for public comment it has since emerged to make many advances towards achieving poverty reduction; vulnerability and social exclusion within South African urban environments (Huchzermeyer & Karam, 2006: 57-58). There is evidently an issue of land availability within close location to areas of opportunities which characterizes South African cities. The belief that the state should provide housing for the urban poor is the basis of housing policy in South Africa. The realisation of the right to housing, in particular the location of such housing, is inextricably tied to right to land, and is hampered by the constitutional protection of the extremely skewed existing property rights to land (Huchzermeyer, 2003: 82). Land is a critical resource in realising this 'housing' right. Huchzermeyer (2001: 318) makes mention of the fact there is a lack of well-located land for the use of social housing, she further states that while much land lies idle in South African urban areas, market-driven decision-making regarding urban land is the main obstacle to the socially responsive functioning of South African cities. This is illustrated in the way the Provincial Government of the Western Cape explains the inaccessibility of urban land:

The problem with most of the vacant land in Cape Town is that it is prime land, and therefore not suitable for low cost housing. The Minister [provincial MEC for housing] is encouraging the municipalities to sell well-located land in order to subsidise other projects

(Botes, personal communication; cited in Huchzermeyer, 2001:318).

The lack of power of informal settlement communities in this battle for a space in the city is evidenced by numerous evictions and relocations and the minimal impact of informal land occupation on the formal structure of the post-apartheid city (Huchzermeyer, 2006: 10). The challenge in implementing this programme is on the ground and faced by the local authority whose role it is to weigh off human-needs driven demands of informal settlement communities with those of the discourse of global competitiveness (Huchzermeyer, 2006: 10).

The South African Housing Policy in the form of the UISP programme, approach to basic needs in the form of housing, education and economic growth that will result in the eradication of poverty is flawed. Charlton & Kihato (2006) considers poverty to be multidimensional and cannot be quantified as easily as delivering housing and economic opportunities. This is one of the main criticisms of the programme, what needs to be further investigated in how housing can contribute to poverty alleviation.

3.1.2 New term into the housing policy sector as per 2005

During 2005, a new term came into use in the South African housing sector: 'temporary relocation area' or 'TRA' (Development Action Group, 2007: 4). TRAs were part of a strategy to provide temporary housing for residents who needed to be temporarily relocated so that new housing developments could commence (Development Action Group, 2007: 4). This was the initial idea behind the development of these temporal areas. The N2 Gateway Project initiated that year (2005) as a national flagship project; which was used to pilot the Breaking New Ground strategy (Development Action Group, 2007). The project involved the building of fully-subsidised, rental and affordable bonded homes to create sustainable communities in designated precincts along the N2 highway in Cape Town (HDA, 2014: 1). It is the most ambitious low cost mega housing development in South Africa (HDA, 2014: 1). The project's intention was to address historic and endemic problems associated with rapid urbanisation, poverty and homelessness (HDA, 2014). The N2 Gateway was the first project in Cape Town to require the temporary relocation of residents so that new developments could commence (Development Action Group, 2007). However, the first project already highlighted a number of concerns about TRAs:

- a) Importance of location and the enormous impact it has on households; income and expenditure and on their social networks
- b) The importance of community participation, people being able to be involved in decision making that will affect their everyday lives

c) The 'inappropriateness' of temporary housing concept as a response to emergencies

d) Importance of an integrated approach to development

(Development Action Group, 2007).

This temporary approach contradicts the objectives of the Breaking New Ground principles; the use of TRAs under the BNG is contradictory as the BNG is a long term plan for development of sustainable human settlements. After the initial use of the TRAs, the development of Temporary Relocation Areas has been attributed to people waiting for formal RDP homes (Reconstruction and Development Programme); victims of evictions and disasters. The Emergency Housing Programme whom the development of TRAs stem from, is a short term temporary plan for people who have been victims of a disaster, short term accommodation has an element of unresolved which places people in a uncomfortable space. However, the problem lies in the Emergency Housing Policy's definition which defines "emergency" as situations that are apparent in all informal settlements, therefore not giving clear guidelines about the process of emergency response (Tissington, 2010: 95). These TRA areas are also referred to as transit camps, government shacks and conditions are often described as being worse than informal/slum settlements.

..... where residents have complained about the poor quality of structures, erosion of social networks, lack of job opportunities in the area, no place for children in schools, high transport costs to the city, lack of activities or recreation places for young people, high levels of crime and violence etc. These complaints are echoed across the country at other TRAs

(Tissington, 2010: 96).

3.1.3 Conclusion to housing policy review

South African housing policy has frequently been criticized for fostering urban sprawl by locating housing delivery on the peripheries of urban areas, thereby reinforcing the spatial tendencies of apartheid and locating the poor on the periphery and increasing vulnerabilities (Huchzermeyer, 2003; Harrison et al., 2003). This right to an adequate form of housing is a constant struggle for the urban poor and often does not solve poverty, a policy that takes on a multifaceted approach is lacking, and the lack of monitoring systems are also unapparent and could possibly be the reason for the existence of ongoing poverty and informal settlements/slums which are characteristic of South African cities. Figure 4, illustrated on the next page summarises housing policy development

Flow diagram illustrating policy development in South Africa

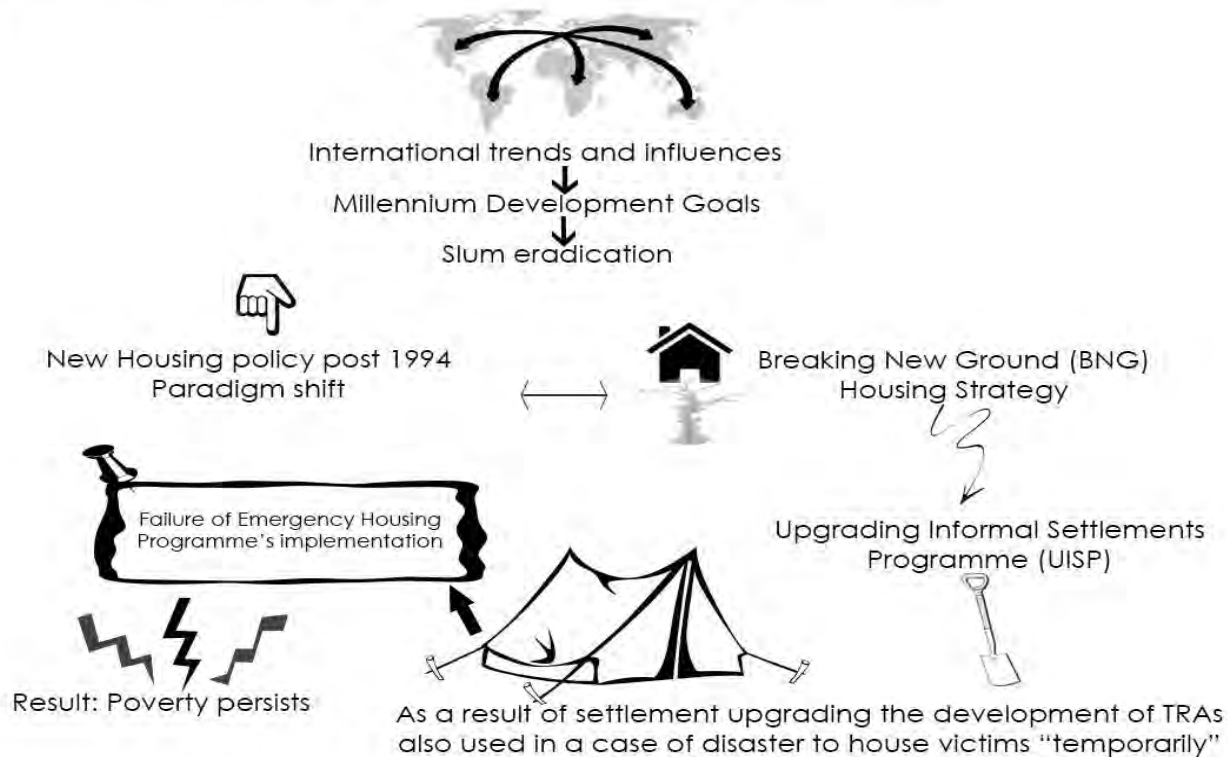


Figure 4: Flow diagram illustrating policy development in South Africa

Source: Author, 2014.

that has been discussed in this section, these policy's apply to the field of Emergency Housing and the development of TRAs. This right to adequate housing is intrinsically bound up with a number of other cross-cutting rights which includes the rights to public participation, equality, human dignity, just administrative action, access to information and access to justice – as well as a range of socio-economic goods and amenities. These include access to land, water, sanitation, electricity, livelihoods, transport, clinics and hospitals, schools, universities and cultural and recreational amenities such as libraries, public spaces, swimming pools, sports fields and religious centres (Tissington, 2010: 11). However, as yet, government has not taken the kind of holistic approach to such development issues that would fundamentally redress the lingering spatial and socio-economic divide across South African cities and towns, despite its promotion of “sustainable human settlements” in policy (Tissington, 2010: 11).

3.2 South African Disaster Risk Management Review

This section will review South African's Disaster Management Act and the role and responsibilities of the three spheres of government in relation to the Act. South Africa faces increasing levels of disaster risk (SANDMF, 2005: 1). Despite ongoing progress to extend essential services to poor urban and rural communities, large numbers of people live in conditions of chronic disaster vulnerability – in underserved, ecologically fragile or marginal areas, where they face recurrent natural and other threats that range from drought to repeated informal settlement fires (SANDMF, 2005: 1). This situation of disaster and emergency necessitated the need for the development of the Disaster Management Act, 2002 (Act No. 57 of 2002) on 15 January 2003 (SANDMF, 2005: 1).

South Africa's Disaster Management Act provides an integrated and coordinated policy to reduce the risk of and severity of disasters. The Act also provides for emergency preparedness, effective response and post-disaster recovery (Disaster Mitigation for Sustainable Livelihoods Programme, 2008:14). Essentially disaster management is the role of all three spheres of government (National, Provincial and Local).

3.2.1 An overview of the National Disaster Management Framework

The National Disaster Management Framework is designed to guide action in the three spheres of government (SANDMF, 2005: 2). The National Framework itself comprises of four key performance areas (SANDMF, 2005: 2). Key Performance area one focuses on establishing the necessary institutional arrangements for implementing disaster risk management within the national, provincial and municipal spheres of government; key performance area two focusses on addressing the need for disaster risk assessment and monitoring to set priorities, guide risk reduction action and monitor the effectiveness of our efforts; key performance area three focuses on introducing disaster risk management planning and implementation to inform developmentally-oriented approaches, plans, programmes and projects that reduce disaster risks and key performance area four focuses on implementing priorities concerned with disaster response and recovery and rehabilitation (SANDMF, 2005: 2-3). As per the section 8 of the Act it requires a National Disaster Management Centre (NDMC) which is responsible for guiding and developing frameworks for government's disaster risk management policy and legislation, facilitating and monitoring their implementation and facilitating and guiding cross-functional and multidisciplinary disaster risk management activities among the various organs of state (SANDMF, 2005: 9).

3.2.2 An overview of the function of Provincial Governments role in disaster management

The Provincial Government of the Western Cape Chief Directorate known as The Disaster Management and Fire Brigade Services is responsible for or facilitating disaster management and coordinating fire brigade services throughout the Western Cape Province (Western Cape Government, 2014). Furthermore their functions are to establish and maintain institutional disaster management capacity and to implement effective risk reduction activities; to prepare for and respond to disasters and coordinate disaster recovery and to coordinate the provincial fire brigade function and capacitate municipalities (Western Cape Government, 2014).

As a mandatory requirement of the Disaster Management Act the province must set up a Provincial Disaster Management Centre (PDMC) (SANDMF, 2005: 12). A key responsibility of the PDMC is to provide support to the NDMC and the metropolitan and district disaster management centres in the province. It must provide the link between national objectives and provincial and municipal disaster risk management activities and priorities (SANDMF, 2005: 9). In addition to its key responsibility the PDMC coordinates and chair a quarterly Provincial Disaster Management Advisory Forum where all relevant stakeholders (including National, as well as Provincial Departments; District Municipalities, in particular the District Disaster Management Centers; Municipalities; NGOs; National Defence Force; SAPS; City of Cape Town; SA Weather Services) gather to discuss pertinent matters relevant to disaster management (Western Cape Government, 2014). Another important responsibility of the PDMC is to be a part of the monitoring process as to ensure the inclusion of disaster risk management plans in IDP processes; ensuring that IDP budgets make provision for disaster risk management (SANDMF, 2005: 13). Given these functions, it is imperative that the Head of the PDMC serves on the relevant provincial development planning structures and makes inputs into all development projects undertaken by the province (SANDMF, 2005: 13).

3.2.3 An overview of the function of the City of Cape Town Local Governments role in disaster management

The Municipal Disaster Risk Management Plan serves to confirm the organisational and institutional arrangements within the City of Cape Town to effectively prevent disasters from occurring and to lessen the impact of those hazards that cannot be avoided (City of Cape Town, 2008: 4). Essentially, this Plan serves as the strategic co-ordination and co-operation mechanism between all the relevant Entities / Stakeholders (City of Cape Town, 2008: 4). The council of each metropolitan and district municipality must establish institutional capacity for disaster risk management in its area (SANDMF, 2005: 14). Such arrangements must be consistent with national and provincial

arrangements and must provide the appropriate mechanisms to allow for the application of co-operative governance to facilitate both intergovernmental and municipal interdepartmental relations as well as community participation for the purposes of disaster risk management (SANDMF, 2005: 14). As a mandatory requirement of the Act the local Municipality must also set up Municipal Disaster Management Centres (MDMC), the MDMC is the primary functional unit for disaster risk management in metropolitan and district municipalities, as it must provide direction for the implementation of disaster risk management policy and legislation and the integration and co-ordination of municipal disaster risk management activities and priorities in order to ensure that national and provincial objectives are achieved (SANDMF, 2005: 14). In the view of the inextricable relationship between disaster and development, it is imperative that the heads of MDMCs and those individuals assigned responsibility for disaster risk management in local municipalities serve on the relevant IDP structures (SANDMF, 2005: 15).

The Act understands the risk communities face in terms of disaster risk, therefore placing the community at the coalface of disaster risk management (SANDMF, 2005: 18). Disaster risk reduction is seen as a community driven process and communities should be involved in the development of disaster risk profiles; facilitate understanding of the concepts and values of disaster risk reduction in communities; prioritise projects aimed at risk reduction in their IDPs; and facilitate community participation in training, preparedness planning and awareness programmes (SANDMF, 2005: 18).

In the case of the disaster that necessitated the development of the OR Tambo TRA in Khayelitsha further explained in the chapter, The City of Cape Town's MDMC is the responsible centre which deals with disasters in the municipality. The MDMC is there to provide support and guidance to the relevant sub-administrative units in the case of metropolitan municipalities and to local municipalities in the case of district municipalities (SANDMF, 2005: 14). Furthermore, it must mobilise municipal infrastructure and all other available resources to support local disaster risk management resources (SANDMF, 2005: 14).

3.3 Institutional Analysis based on the role and responsibility of all three spheres of Government in the Department of Human Settlements

This section will explain the role and responsibility of the department responsible for housing and the development of human settlements. In 2009 President Jacob Zuma changed the Department of Housing to the Department of Human Settlements and in 2012 the Estate Agency Affairs Board, which used to fall under the Department of Trade and Industry, was also transferred to the

Department of Human Settlements (GCIS, 2014: 1). The focus shifted from housing being just a roof over people's heads, to providing sustainable and integrated human settlements where people can work, pray, play and have access to amenities required for their day-to-day living (GCIS, 2014:1). The mandate of the Department of Human Settlements is to facilitate the creation of sustainable human settlements and improve the quality of household life. Its functions are to determine, finance, promote, communicate and monitor the implementation of housing and sanitation programmes (GCIS, 2014).

3.3.1 The National Department of Human Settlements

The South African government is a three sphered government (National, Provincial and Local Government) thus each department has their own role and responsibility in developing sustainable Human Settlements in South Africa. The National Department of Human Settlements role is to "establish and facilitate a sustainable housing development process" (South African Local Government Association, SALGA cited in Department of Human Settlements, 2014: 1). Their key functions are to establish a national institutional and funding framework for housing development; to negotiate the apportionment of the State budget for housing development purposes; to allocate funds for national housing programmes to provincial governments; to prepare and maintain a multi-year housing development plan; to establish and finance national institutions for purposes of housing development; to evaluate the performance of the housing sector; and to take steps reasonably necessary to create an environment conducive to enable all role players and individuals to achieve their respective goals in respect of housing development (Department of Human Settlements, 2014: 1).

3.3.2 The Provincial Department of Human Settlements

The Provincial Department of Human Settlements role is to promote sustainable integrated human settlement development in the Western Cape (Western Cape Government, 2014:1). The Provincial department has a mission to be effective agents of change in capacitating and supporting municipalities to optimally deliver housing opportunities; to promote, facilitate and develop integrated and sustainable human settlements and to facilitate delivery through sound administration and the engagement of all spheres of government and social partners (Western Cape Government, 2014:1).

3.3.3 Local Government Department of Human Settlements

Local government which is the City of Cape Town Municipality in this case, role is to implement plans and to provide housing. Local Government is on to the ground implementing policy's and

programmes. The City of Cape Town has created a range of housing delivery options to provide initial basic services to some communities and permanent homes to others over a multi-year period (City of Cape Town, 2014: 1). The Intergovernmental Relations Framework Act, 2005 (Act No. 13 of 2005) provides for the establishment of co-operative governance structures and systems, as well as alignment mechanisms. Local government is the main implementing agency (Human Settlements Department, 2009: 14). To counter the lack of capacity at local government level, a focused capacity building programme to support municipalities must be established by provincial housing authorities (Human Settlements Department, 2009: 14). The City's ability to deliver public sector housing is constrained by its limited financial and skills resources, not to mention the complicated nature of the housing production process itself, which includes lengthy environmental and approval processes and protocols for intergovernmental cooperation (City of Cape Town, 2014: 1). This problem should be addressed by the provincial Department of Human Settlements.

3.3.4 Conclusion to the institutional analysis of the Department of Human Settlements

This section has given an overview of the Department of Human Settlements, it is evident that the implementing department which is the City of Cape Town in this case faces a wide range of challenges and constraints. One of the primary research questions was how can planners contribute to the notion of co-operative governance which will enable all three government spheres (National, Provincial and Local) and departments to work together in a supportive manner to fulfil its constitutional mandate in delivering adequate shelter for people to reside in. Through the overview of each of the government spheres role and responsibility it has been made evident that each sphere should fulfil their role according to their function. Additionally, it is the role of the Provincial government to ensure that local government has an adequate amount of access to funding that will ensure that the implementation of programmes are done in an effective manner in order to fulfil its constitutional mandate as the Department of Human Settlements which is to provide sustainable human settlements. Another research question was how can planners ensure that the budget provided in the Emergency Housing Programme is well accounted for and spent in a sustainable manner, this can be done through adequate fulfilment of roles and responsibilities. Furthermore, it is the role of Provincial Government to access funding for Emergency Housing so that local government can implement change using funding provided. Co-operative governance is very important in ensuring that all Governments roles and responsibilities are fulfilled in a sustainable, effective , transparent and efficient manner.

3.4 Spatial Planning Context of site: Khayelitsha

The case study being evaluated in this chapter is situated in the township of Khayelitsha, located 19km east of Wynberg and 25km of south-east of Cape Town in the Cape Flats region of the Western Cape, South Africa. Refer to figure 1 in the introductory chapter for a locality map of the location of Khayelitsha. The name is of isiXhosa origin and means 'new home' (South African History, 2014). The township was built under the principle of racial segregation executed by the Apartheid government. Due to the immense influx of people, it is the second largest black township in South Africa (South African History, 2014: 1).

The aim of this section to further understand the spatial planning context in which the site falls. This sections aim is to assist with understanding the spatial planning vision for the area within in which the site is a part of. Through understanding the spatial planning context connections can be made about whether planning deals with emergencies. Planning tools and instruments will be reviewed that pertain to the site, this section also attempts to answer one of the primary research questions about what planning tools and strategies can facilitate the emergency housing programme to be more proactive.

3.4.1 The Provincial Spatial Development Framework (PSDF)

The Provincial Spatial Development Framework is a long term plan that spans over +/- 40 years. The Provincial Spatial Development Framework (PSDF) is mandated by Section 15 of SPLUMA 2013 and Section 4 of the Land Use Planning Bill (Western Cape Government, 2013). This Provincial Spatial Development Framework (PSDF) must coordinate, integrate and align, provincial plans and development strategies with policies of national government; the plans, policies and development strategies of provincial departments; and the plans, policies and development strategies of municipalities. Whilst the Constitution assigns shared and exclusive spatial responsibilities to each sphere of government, it is evident that Provincial Government's PSDF mandate requires coordination, integration and alignment between all spheres of government (Western Cape Government, 2013: 6).

The spatial vision of the PSDF builds on OneCape 2040's vision of "a highly-skilled, innovation driven, resource efficient, connected, high opportunity and collaborative society" (Western Cape Government, 2013: 21). The PSDF has guiding spatial principles namely spatial justice; sustainability and resilience; spatial efficiency; accessibility and quality; and liveability (Western Cape Government, 2013: 24). The PSDF considers a key challenge in the province to be informality,

housing delivery, inclusion and land markets. The PSDF describes housing investment over the past 10 years as exacerbated exclusion, placed communities in poverty traps, in peripheral locations; this is undermining the financial sustainability of municipalities and places huge cost burdens on households (Western Cape Government, 2013: 85). Informal communities face a range of risks such as vulnerable to fire, floods, landslides and health risks; challenges are exacerbated by poor co-ordination between the different spheres of government, and among departments within these spheres (Western Cape Government, 2013: 85). Exclusionary land markets mitigate against spatial integration of socio-economic groups and limit affordable and well located land. At the same time government sits on well-located under-performing land and structures (Western Cape Government, 2013: 85).

The PSDF aim is to create integrated and sustainable communities with access to social and economic opportunities throughout the province, the housing focus must shift towards diversifying and aligning housing projects with economic opportunities, increasing the supply and proper management of affordable rental accommodation and also bring the formal and informal sectors together into one unified market (Western Cape Government, 2013: 86). The PSDF's approach is to place less emphasis on delivering completed houses, and more emphasis on incrementally developing human settlements (Western Cape Government, 2013: 86). The PSDF recognises the need for a new approach to housing with their sustainable integrated settlement development approach that is aimed at reducing risks present in informal settlements, this approach requires proper co-ordination among all spheres of government, communities and private sector. The PSDF has thus adequately considered the current state of emergency creation in informal settlements.

3.4.2 The Cape Town Spatial Development Framework (CTSDF)

The Cape Town Spatial Development Framework is mandated by the Municipal Systems Act section 34 (No 32 of 2000) and section 4(6) of the Land Use Planning Ordinance (No 15 of 1985) – is (together with the Provincial Spatial Development Framework) the spatial planning document with the highest legal status applicable to the municipal area of Cape Town (City of Cape Town, 2012). It is a planning tool that provides spatial direction to the city's future growth and development, it is a long term plan usually for the next 20 years (City of Cape Town, 2012: 81). It is the hope that this tool with enable foresight and insight that is able to guide and manage public and private development

to ensure that it is the best possible outcome for its inhabitants (City of Cape Town, 2012: 8). Its intention is to also balance competing land use demands, by putting in place a long term logical development path that will shape the spatial form and structure of Cape Town (City of Cape Town, 2012: 8). Figure 5 below, depicts population density throughout the suburbs that form part of the City of Cape Municipal area.

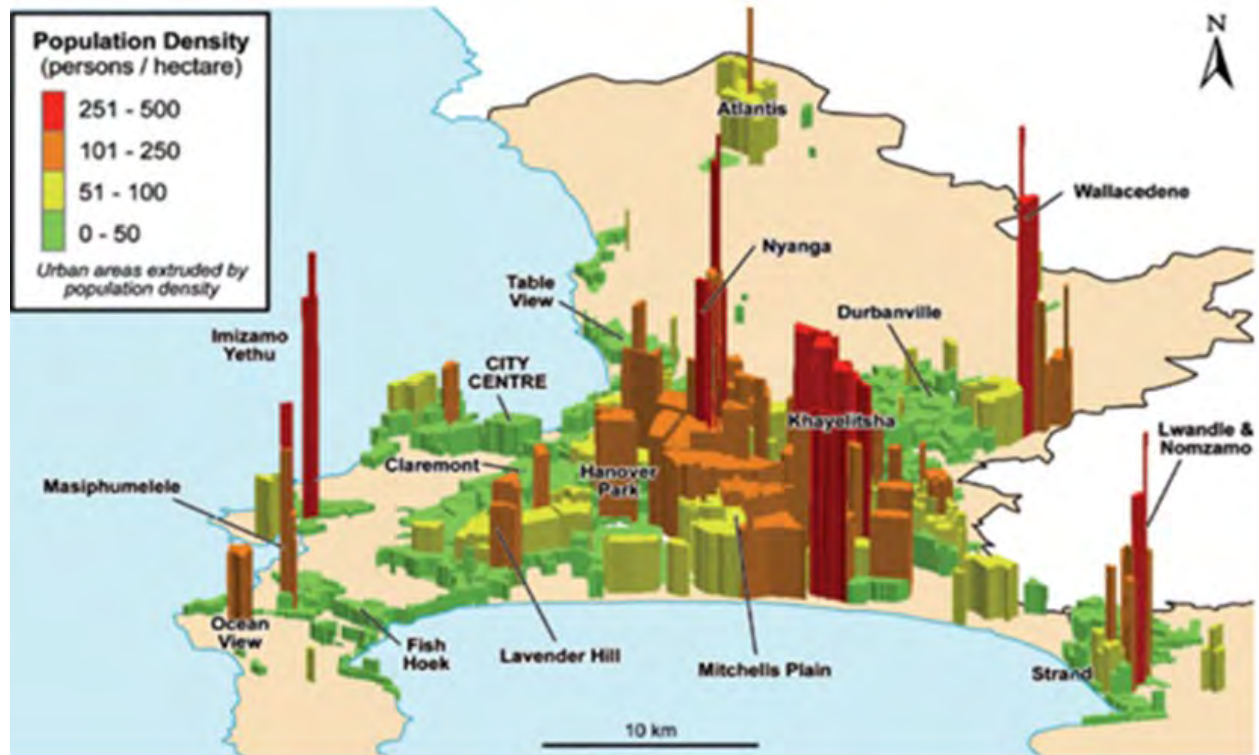


Figure 5: Population Density

Source: City of Cape Town Spatial Development Framework, 2012:19

Khayelitsha is one of the most densely populated areas in the City of Cape Town according to the Cape Town Spatial Development Framework. The spatial extent of the City has increased rapidly, by an estimated 650 hectares per annum (City of Cape Town, 2012: 22). The current pattern of urban development is unsustainable and threatens critical resources such as agricultural and biodiversity resources (City of Cape Town, 2012: 22). Another factor that limits land availability is the presence of hazardous land uses within the municipal area (City of Cape Town, 2012: 22). As seen in figure 5, areas such as Khayelitsha, Nyanga and Wallacedene are densely populated. The problem of lack of land available and lower income populations requiring accommodation is a planning problem. If this problem persists it could increase emergency situations as people will settle closer to each other making settlements too dense without access routes. Additionally people will start to settle in areas which are not suitable such as flood plains.

The area of Khayelitsha has been highlighted as a potential area for expanded corridor development. Development corridors are broad areas of high-intensity urban development centered around activity and development routes. They are characterised by a dynamic, mutually supporting relationship between land use and the supporting movement system. Development corridors are generally supported by a hierarchy of transport services that function as an integrated system to facilitate ease of movement for private and public transport users (City of Cape Town, 2012: 32). Figure 6 below, is an illustration of the development corridor concept. The plan is to link Khayelitsha/Mitchells Plain with another suburb Bellville/Kraaifontein known as the eastern corridor. The eastern corridor is a developing corridor. Substantial infrastructural investment in the form of road/rail and other service infrastructure is required to support the future growth and development of the eastern corridor. The Blue Downs rail link is essential to improve access to socio-economic opportunities between the Metro Southeast sector (largely poor informal region of the City of Cape Town Municipality) and the urban core corridor (City of Cape Town, 2012:33). Khayelitsha is an important structuring element which is planned to be integrated into the larger urban fabric to offer its residents access to socio-economic opportunities.



Figure 6: Development corridor concept

Source: City of Cape Town, 2012: 33

The Spatial Development Framework highlights the area of Khayelitsha as an area that requires area based interventions to address spatial economic imbalances (City of Cape Town, 2012: 47). Area based interventions in this context refers to the spatially intervening with possible solutions to

the inequalities currently evident in the spatial structure of the area. One possible solution would be for public investment to unlock market opportunities for the area (City of Cape Town, 2012: 47). The Spatial Development Framework has prioritized the area in terms of the need for socio-economic investment and to be further integrated into the larger urban fabric as well as the need for an area based intervention to address current disparities that exist. In terms of planning with nature of emergencies in mind, the Spatial Development Framework does not specifically address this. However, it has only paid attention to population increase in the area as well as the lack of land available for development and thus offers a solution of the need for socio-economic investment.

3.4.3 The Khayelitsha, Mitchells Plain and Greater Blue Downs District Plan

The district plan is a medium planning tool developed on a +/- 10 year planning framework (City of Cape Town, 2012: 11). Its role is to align with and facilitate the implementation of the Provincial Spatial Development Framework (PSDF), Cape Town's Integrated Development Plan (IDP) and the City of Cape Town Spatial Development Framework (CTSDF) within the District; performing part of a package of decision support tools to assist in land use and environmental decision making processes; delineating fixes and sensitivities which will provide an informant to such statutory decision making processes; clearly giving direction to the form and desired structure of areas for new urban development as well as areas for land use change in the District in a manner that is in line with the principles and policies of higher level planning frameworks; providing a strategic informant to public and private investment initiatives which will assist in achieving the principles and policies of higher level planning frameworks; informing the development of priorities for more detailed local area planning exercises and frameworks that should provide detailed guidance to land use management, public and private investment (City of Cape Town, 2012: 11-12). The district plan is mandated through section 4(10) of the Land Use Planning Ordinance (LUPO) of 1985 and/or the equivalent as provided for in terms of any subsequent legislation that may replace LUPO; the Environmental Management Framework has been developed in compliance with the requirements of the National Environmental Management Act (NEMA) 107 of 1998 and regulations pertaining to environmental management frameworks promulgated under sections 24(5) and 44 of the said Act (City of Cape Town, 2012: 13).

The district plan for the Greater Khayelitsha area is to encourage land-use intensification and an appropriate mix of land-uses to develop along identified activity routes and developmental routes;

at identified nodes; at key intersections, stations and modal interchanges (City of Cape Town, 2011). The plan also includes economic opportunities such as to support well-located sites for small scale retail/business activity along the major routes; support well-located sites for small scale retail/business activity along the major routes; and support tourism opportunities (City of Cape Town, 2011). Furthermore the plan aims to manage urban development by ensuring the upliftment of the urban environment by providing quality areas of amenity; maintaining and improving the quality of existing public open space and the public realm (City of Cape Town, 2011). New development areas are the Khayelitsha Central Business District (CBD) vacant land abutting the CBD presents opportunity for mixed-use intensification; district station areas and gateways (cnr Spine & Mewway, cnr Spine Lansdowne); support light-industrial/small business opportunities in Spine Road industrial site and new commercial development should be encouraged in support of the activity nodes (City of Cape Town, 2011).

3.4.4 Cape Towns Integrated Development Plan (IDP)

In 1995 the Forum for Effective Planning and Development (FEPD) defined Integrated Development Planning (IDP) as:

"A participatory approach to integrate economic, sectoral, spatial, social, institutional, environmental and fiscal strategies in order to support the optimal allocation of scarce resources between sectors and geographical areas and across the population in a manner that provides sustainable growth, equity and the empowerment of the poor and the marginalised"

(IDP).

Integrated Development Plan (IDP) is a planning tool which guides the activities and decisions of a Municipality for the next 5 years, it allows efforts to be done in a focused manner based on key development priorities (Westonaria Local Municipality, 2010/11: 1). The City of Cape Town's Integrated Development Plan (IDP) is mandated by the Municipal Systems Act section 34 (No 32 of 2000) (City of Cape Town, 2012). The IDP is the City of Cape Town's key strategic planning instrument, it has been developed through an intense public participation process (City of Cape Town, 2012: 6). The IDP has clear objectives with regards to human settlements, which are set out below:

The City of Cape Town faces is challenged to ensure innovative human settlements and housing for those in need. Interventions will require significant additional capital investment, together with a fundamental reconsideration of how to deliver more housing, more rapidly, in a more integrated, sustainable manner. Key elements for successful urban restructuring include higher-density housing developments in well-located areas, major improvements in public transport to link fragmented places, and higher employment levels in townships and informal settlements. The City continues to utilise the range of available national housing programmes to create innovative, integrated and sustainable human settlement developments for its poorest communities, most of who depend on the state for their housing needs

(City of Cape Town, 2012:9).

The IDP has five key strategic focus areas namely the opportunity city; safe city; the caring city; the inclusive city and the well run city. These focus areas are informants to all plans and policies developed within the City of Cape Town's municipal structure. The "Safe City" strategy has incorporated dealing with emergency situations and building community resilience. The City of Cape Town has set out objectives, underneath this focus area, the objective that includes emergency situations is to improve safety and security through partnerships. The aim of this objective is to strengthen community capacity to respond to emergency situations. The City's ability to respond to disasters will be expanded by gaining more involvement in disaster management from communities. The Disaster Risk Management Centre will continue to increase the number of fire warden and emergency coordinator programmes provided for commerce and industry (City of Cape Town, 2012). The number of public awareness and preparedness sessions for at-risk communities in informal settlements will also be increased to raise awareness regarding the hazards of fires and floods, climate change, etc. (City of Cape Town, 2012: 22).

3.4.5 Conclusion

This section has reviewed planning tools that incorporate the emergency situation context. The PSDF; CTSDf; District plan and IDP are all very important instruments however what is evidently clear is that there is a lack of coordination and collaboration amongst planning and policy makers with implementation agencies. If there was a defined process The City of Cape Town would not have to deal with emergency housing as a response on such a reactive basis, which is currently described as coming up with a temporary solution rather than a permanent solution to the problem that creates emergency situations. The research question was what planning tools and strategies can

facilitate the emergency housing programme to be more proactive. Planning tools reviewed are all designed based on a forward planning framework thus its nature is to be proactive, however there is a lack of collaboration with planning tools and implementation of policy programmes to allow for a well-integrated thought out process to ensure that emergency situations are minimised in informal settlements. Based on the analysis the SDF and the IDP, these tools have the possibility of enabling a proactive environment because of the SDF being a forward planning tool and the IDP which has strategies to be addressed over a five year term, if used together with the emergency housing programme it has the potential to be proactive.

3.5 Case study Analysis: OR Tambo TRA Khayelitsha

This section will contextualize the case study and explain what necessitated the development of the TRA. On the 1st of January 2013, there was an accidental fire caused by a resident, the fire was very destructive to the settlement known as Barney Molokwane (BM) section. The information represented in this section was provided by the City of Cape Town Municipality (2013), a large contingent of public safety agencies from the City's Disaster Risk Management; Emergency Medical Services; Fire and Rescue Services; Metro Police; Law Enforcement; and Traffic Services sections as well as Provincial Traffic Services worked together to manage the incident and bring the fire under control. Extinguishing the fire proved challenging, there were 17 vehicles on the scene, as the gusting winds fuelled its spread. City and Provincial Traffic Services implemented road closures on the N2 in both directions as the thick smoke affected the free-flow of traffic, endangering motorists' safety. The service of a helicopter was employed at first light on the morning, to assist in containing the rapidly spreading fire. The aerial fire fighting efforts successfully contained the fire and the helicopter was able to stand down, with fire emergency vehicles on scene to assist with possible flare-ups. Tragically three men died as a result of the fire. Another man sustained serious burn wounds and was transported to hospital for treatment. The cause of the fires is alleged to be the negligence due to persons being under the influence of alcohol.

This settlement is an area situated in the township of Khayelitsha, on the corner of Mew way and Spine road. The Khayelitsha Township is part of the Metro South East area of the City of Cape Town, this area is referred as a concentration of need (Wright, 2013). According to the 2011 Statistics South Africa data, the population of Khayelitsha is 391 749 with 118 809 households, the average household size is 3.30. The map on the next page illustrates the urban extent of Khayelitsha.



Figure 7: Urban extent of Khayelitsha

Source: City of Cape Town, 2011.

The dwelling profile is presented in table 1 on the next page it shows that there is a range of dwellings types namely formal; informal/shack in backyard; informal dwelling with no shack and other. According to Statistics South Africa (2011), the overall 43, 6% of the population resides in informal dwellings. Additionally, there is a large proportion of informal dwellings in the area and occupied dwellings rent free. The dwelling profile is interesting as it gives an overview of settlement arrangements in the area. The case study area The BM section was largely an informal area this is possibly the reason why the impact was so severe.

Khayelitsha Type of Dwelling	Black African		Coloured		Asian		White		Other		Total	
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Formal Dwelling	52 186	44.5%	339	69.6%	34	54.8%	62	60.2%	369	46.1%	52 990	44.6%
Informal dwelling / shack in backyard	9 463	8.1%	47	9.7%	6	9.7%	4	3.9%	211	26.3%	9 731	8.2%
Informal dwelling / shack NOT in backyard	54 679	46.6%	95	19.5%	22	35.5%	36	35.0%	198	24.7%	55 030	46.3%
Other	1 028	0.9%	6	1.2%	0	0.0%	1	1.0%	23	2.9%	1 058	0.9%
Total	117 356	100.0%	487	100.0%	62	100.0%	103	100.0%	801	100.0%	118 809	100.0%

Khayelitsha Tenure Status	Black African		Coloured		Asian		White		Other		Total	
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Owned and fully paid off	58 897	50.2%	198	40.7%	21	33.9%	40	38.8%	71	8.9%	59 227	49.9%
Owned but not yet paid off	7 980	6.8%	69	14.2%	5	8.1%	17	16.5%	12	1.5%	8 083	6.8%
Rented	13 190	11.2%	126	25.9%	22	35.5%	21	20.4%	638	79.8%	13 997	11.8%
Occupied rent-free	32 659	27.8%	74	15.2%	11	17.7%	23	22.3%	49	6.1%	32 816	27.6%
Other	4 632	3.9%	20	4.1%	3	4.8%	2	1.9%	30	3.8%	4 687	3.9%
Total	117 358	100.0%	487	100.0%	62	100.0%	103	100.0%	800	100.0%	118 810	100.0%

Table 1: Types of dwellings in Khayelitsha

Source: Stats SA, 2011.

The District plan envisioned this particular area to be a new development area where it would have been an opportunity for the local the community to share in the benefit of a mixed use area. However, because of the fire the area was transformed into a temporary settlement for those affected. The nature of disastrous situations hinders the growth of an area and this is evident in this case study. Figure 8, is a map of the BM Section where the fire occurred.



Figure 8: BM Section locality Map

The fire destroyed 792 dwellings as a result of its impact. This event necessitated a quick response and an expected plan of action referred to as the Barney Molokwane Rescue Plan which is currently being managed by the Urbanisation Directorate, Human Settlements, City of Cape Town Municipality (City of Cape Town Department of Human Settlements, 2014: 1). The local municipality of the City of Cape Town role as an implementation agent was explained in the section about Government Departments responsible for implementing housing. The photos presented on the next page (photo 1-6) were taken after the fire occurred in the settlement as per the images it is noticeable that there were hundreds of dwellings destroyed including peoples belongings, leaving the residents vulnerable after such a shocking event.



Photos 1-6: Barney Molokwane (BM) section settlement after the fire

Source: City of Cape Town Engineering Services Department, 2013.

Due to the extent of damage the fire caused, it was became known as a National Emergency and Government had to put quick response measures into place. It was the responsibility of Local Government Department of Human Settlements City of Cape Town, to come up with a plan to relocate victims into alternative dwellings. Fires in local townships are not normally interpreted as a National Emergency and the quick response from relevant departments are not usually done in such a prompt manner due to the bureaucratic nature of Government. This is not usually the case when a disaster happens in our City as there are many protocols to follow (Sims, 2014). Photos (7-9) below are aerial photography of the site after all the rubble was cleared by the Department of Waste, which left the site vacant. This area of land home to 792 families now left vacant. Victims of the disaster went to live with family and others were housed in the OR Tambo Hall where they were cared for and given food, blankets, clothing and a place to sleep (Sims, 2014). There is a dominant misconception created by media that The City of Cape Town as a municipality is ineffective and does very little (Gerber, 2014). The case illustrated the City of Cape Town Municipality's willingness to assist those affected through efforts that often went beyond their job function.



Photos 7-9: Aerial photography view of BM section

Source: City of Cape Town Engineering Services, 2013.

3.5.1 The Barney Molokwane (BM) Rescue Plan

The rescue plan incorporates the development of two TRAs known as the OR Tambo TRA and the BV section TRA and an Incremental Development Area (IDA) (City of Cape Town Department of Human Settlements, 2014: 1). The IDA is the City's new approach for a more long term solution to house people that have been victims of disasters. The City Hopes to turn all its TRAs into IDA areas, which will allow people to develop their dwellings into formalised dwellings over time, the City will provide services to these areas to assist with the transition (Adams, 2014). The Incremental Development Area (IDA) plan is to house 1006 families (City of Cape Town Department of Human Settlements, 2014: 1). In addition to the aforementioned, it was agreed for the City of Cape Town to undertake a planning process for a total reconfiguration of the BM section area. Susan Groenewald, a planner at the Department of Human Settlements (Groenewald, 2014) speaks of the role as a planner in the process of reconfiguration to be challenging. I noticed the despair in her voice as she explains that land is a big problem in Cape Town and when you need to reconfigure land often there is not enough space to house all the families that lived there prior to the disaster or the development.

The two TRAs were planned, designed through a collaborative effort between the Department of Human Settlements and The Spatial Planning and Urban Design (SPUD) department which included both planners and urban designers. The site had contractors on site within two weeks from the date of the fire, with minor civil engineering works completed within three weeks; the first 450 beneficiaries were issued with enhanced fire kits and settled in the BV section TRA in a reblocked manner. Settling in a reblocked manner means that dwellings would be placed strategically in a set way such as houses along a road or a design of a suburban area. The reason for settling the beneficiaries in a reblocked manner, is to 'improve access around the settlement' (Groenewald, 2014). Although these access routes are not permanent it is the role of onsite facilitators appointed by the City of Cape Town to communicate to the community of keeping these access routes to avoid a big scale disaster from occurring in the future. Facilitators are used as the "on the ground" communicators and in situations of post disaster this is often a challenging as processes which needs to be carried out in a fast effective manner. One of the primary research questions was how can the public participation process be done in a situation of 'disaster risk'. These "on the ground" facilitators are public participation experts in post disaster situations and their role is to explain and interpret plans in a way that people without expert knowledge can understand, Groenewald (2014) describes the process to be challenging. Groenewald (2014) further explained that facilitating a public participation process during a post disaster situation is not realistic as this process is usually

time consuming and people need to be located into new settlement areas as soon as possible. Groenewald (2014) also said that as a professional your role is to act in the public's best interest although you are faced with many constraints such as the availability of land and limited service provision. In the case of the OR Tambo TRA land was available and it was easier to reconfigure which is usually not the case. The second TRA, OR Tambo TRA was established two weeks after the BV section TRA and accommodated 332 families (City of Cape Town Department of Human Settlements, 2014: 1). Figure 9 below shows the location of the OR Tambo TRA, as part of the township of Khayelitsha.



Figure 9: Map illustrating the location of the OR Tambo TRA in Khayelitsha

Source: Author, 2014 from data sourced from the City of Cape Town, 2013.

Due to the extent and nature of the fire disaster, humanitarian relief organisations namely Gift of the Givers and Ikhayalami assisted in resettling the victims. The Gift of the Givers is the largest disaster response Non-governmental organization (NGO) of African origin on the African continent (Gift of the Givers, 2013). Gift of the Givers has delivered lifesaving aid in the form of search and rescue

teams, medical personnel, medical equipment, medical supplies, medicines, vaccines, anti-malarial medication, high energy and protein supplements, food and water to millions of people in 41 countries, South Africa included (Gift of the Givers, 2013). The Gift of the Givers motto:

We actively seek to build bridges between people of different cultures and religions engendering goodwill, harmonious coexistence, tolerance and mutual respect in keeping with the divine injunction:

(Gift of the Givers, 2013).

Ikhayalami is a Not For Profit Organisation whose primary aim is to develop and implement affordable technical solutions for Informal Settlement Upgrading (Ikhayalami, 2012). These are designed, where appropriate, to be embedded into a community-driven process and scaled up with the support of the State. Ikhayalami was established as a response to conventional approaches in dealing with informality, which are unsustainable and painstakingly slow in meeting the immediate needs of the vast majority of South Africa's urban poor (Ikhayalami, 2012). Their work is premised on the realisation that informality is part of the modern urban fabric, and it will remain a reality for the foreseeable future, holds within ingenious adaptations and is part of the solution (Ikhayalami, 2012). Their premise is a mirrored belief of Pieterse & Simone (2013) who consider informal settlements to be features of the urban landscape which are here to stay.

Both organisations pledged to build temporary top structures and hand it over to some of the displaced fire victims (City of Cape Town Department of Human Settlements, 2014: 1). Collectively the humanitarian organisations agreed to donate 191 top structures and agreed to work in conjunction with the City of Cape Town Informal settlements engineering services for the purpose of ensuring the City of Cape Town standards and regulations are adhered to on the project (City of Cape Town Department of Human Settlements, 2014: 1). Although the humanitarian organisations worked in conjunction with the City of Cape Town and worked from one plan, all three outputs looked different. Figure 10 on the next page, is the approved plan which all three implementing agents used when constructing the structures. The plan was approved by the City the City of Cape Town.

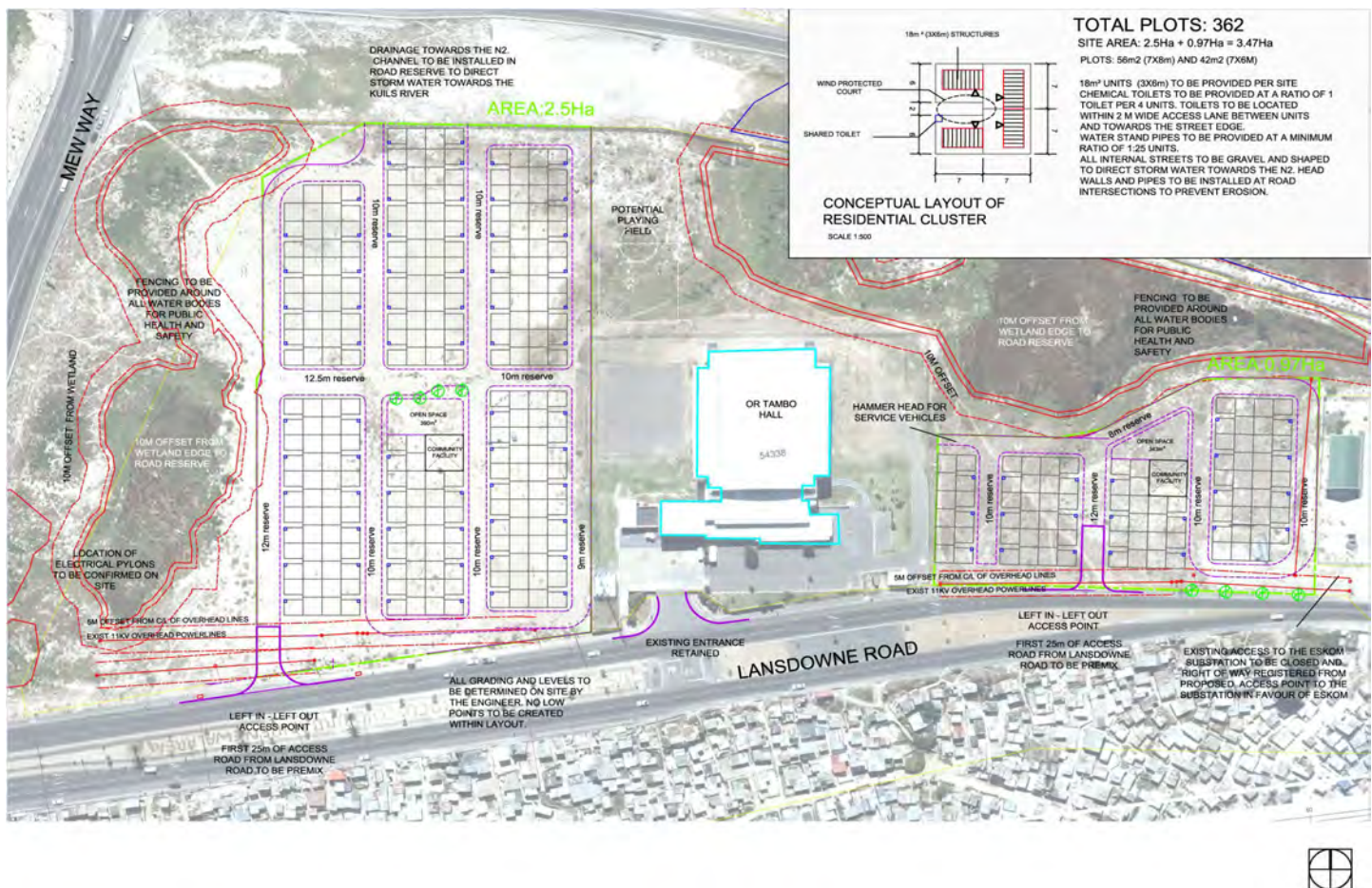


Figure 10: Approved plan by the City of Cape Town used by all three implementation agents

Source: City of Cape Town, 2013.

During an interview with Waleed Adams (Project manager of the OR Tambo TRA, 2014), I asked him why all three implementing agencies structures appeared to look very different this question based on one of my case study research questions about whether the plan was implemented as authorised. He responded by saying that all three had different development agendas. This indicates that collaboration is often a challenging task and values and principles are diverse and usually integral in implementation of projects. After the completing phase of the top structures, beneficiaries were housed in a phased manner.

The intended long term solution to settling fire victims was a development of an IDA which would be an extension to an existing IDA in the Mfuleni area, known as the Bosasa IDA. The Mfuleni community is situated in the Northern suburbs of the City of Cape Town area in the Western Cape, South Africa. It is 30km from the Central Business District (CBD) of Cape Town (Habitat for Humanity,

2014). Housing is a great priority in Mfuleni as nearly 40% of the community lives in informal shacks that lack water and electricity (Habitat for Humanity, 2014). The long term plan for these fire victims does not address poverty in an integrated manner, as they will be placed further away from opportunities and the community of Mfuleni is already dealing with the shortage of adequate houses or services. Figure 11 is a locality map of Mfuleni, to further understand the spatial location of the area.

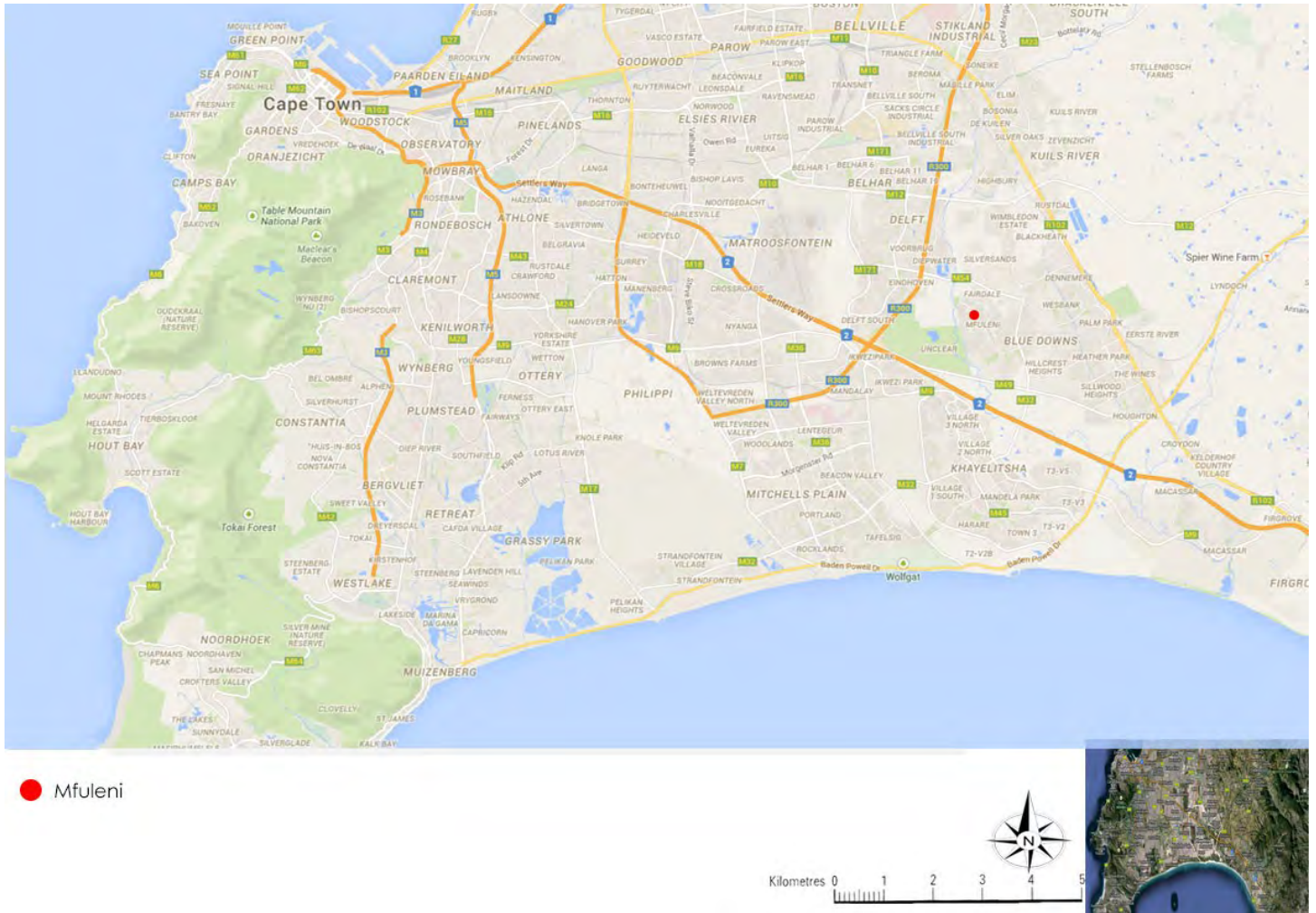


Figure 11: Locality map of Mfuleni

Source: Author, 2014.

The development of the IDA is intended to be a formalised settlement. It is important to note that, if development of this nature is to be implemented in the area of Mfuleni, according to the South African Planning legislation, it is a requirement that an extensive land use and environmental approval process is to be conducted prior to an engineering design and construction process (City of Cape Town Department of Human Settlements, 2014: 2). This process requires further coordination from all statutory bodies, these are decision making authorities for example planners approve plans based on certain legislative requirements. There needs to be proper coordination in place for a rapid approval processes to be in place which ensured the success of initiating the construction process within the same year (City of Cape Town Department of Human Settlements, 2014: 1). However, what seems to be pertinent is that the plan does not respond to improvement of the lives of the fire victims but rather only addresses the provision of housing.

3.5.2 Mfuleni IDA Project Implementation



Figure 12: Bosasa IDA farm 952 Mfuleni approved plan by the City of Cape Town

Source: City of Cape Town, 2013.

Due to the nature of the disaster and having been declared a National Emergency, the planning and design process for the development of the IDA was concluded just over a month after the disaster on the 20 February 2013 (Department of Human Settlements, 2014: 1). The tendering and contracting process was completed by the 22 July 2013 for the victims of the fire to be housed in the Mfuleni IDA (City of Cape Town Department of Human Settlements, 2014: 1). Figure 12 is the approved plan for the development of the Bosasa IDA, the plan was approved by the City of Cape Town Municipality on farm 952 in Mfuleni.

However, the process to move beneficiaries into the homes was placed on hold from its inception due to resistance by the Mfuleni community which resulted in a development agreement to be reached between the City of Cape Town and the Mfuleni community, the agreement allowed the BM section fire victims to be housed at the IDA on the condition that the Mfuleni community benefits from a new development namely the Mfuleni extension 2 (City of Cape Town Department of Human Settlements, 2014: 1). The project resumed on the 22 August 2013 and was further subjected to delays which included, a fifteen day delay in September 2013 caused by the National Civil Construction Industry strike; further community resistance on the 27 and 28 February 2014 by Burundi community caused a site closure for seven days, City officials held meetings with community committees, and they came to another agreement which allowed the contractor to continue to work (City of Cape Town Department of Human Settlements, 2014: 2). In spite of the agreement reached the community of Mfuleni ward 16 backyarder committee continued to cause a resistance which in turn caused another site closure on the 7 March 2014. To date the construction has been suspended (City of Cape Town Department of Human Settlements, 2014: 2). There has been further efforts made by the City of Cape Town for reconvene construction through obtaining an interdict. The interdict was obtained on the 20 March 2014 against certain parties and individuals from the Mfuleni community which caused disruptions however the community has continued to vandalise the development (City of Cape Town Department of Human Settlements, 2014: 2). They have vandalised contractor site offices; containers; IDA units; damaged the fence that was erected the 1 April 2014. The City of Cape Town's mayor held a meeting on the 17 April 2014 however since then the project has not resumed.

3.5.3 Evaluating the OR Tambo TRA

The literature review discussed the criteria a TRA should meet in terms of being an adequate form of shelter that is mandated through section 26 of the South African Constitution. The criteria

developed by Smit (Tissington, 2010) will be used in this section to assess whether the OR Tambo TRA is adequate enough. The criteria will be interpreted based on the type of shelter the OR Tambo TRA provides. The evaluation of this criterion also help to answer secondary case study research questions presented in this section.

The first key criteria is location, the OR Tambo TRA was developed alongside the area where the disaster occurred due to the land being available to be developed. It is important to understand that this is not always the case and more often than not residents are moved to a location far from where they previously settled such as the case with the N2 Gateway Project, residents were relocated to Delft which is 20,8km from where they previously had resided. However, the TRA did not house all the victims of the disaster only a portion was housed; others are to reside in the Bosasa IDA. In terms of this criterion the OR Tambo TRA has not been inadequate in addressing a proper location, however due to only providing a certain amount of people with shelter it is inadequate as some people are now left displaced while waiting for the Bosasa IDA to be completed which is further located from where they had originally settled. The second criteria is adequacy of shelter, it is not a true evaluation of the TRA at this stage due to the fact that not all people have settled because of the reconfiguration process. That alone makes the shelter inadequate as it is not available to all affected victims. The shelter is also temporary and there is limited service provision, thus the TRA is an inadequate form of shelter and those resettled on the land with the enhanced fire kits are still in informal structures without the provision of services. The third criteria is affordability, victims do not pay for costs of setting up the shelter. However, The Emergency Housing Programme funds the development of TRAs; this is an unsustainable allocation of funds due to its temporary nature. Funds should be allocated into more permanent solutions to ensure a well allocation of government expenditure. The fourth criteria is adequacy of services, TRAs have no permanent service provision. There is no electricity; no sewer reticulation, in the case of the OR Tambo TRA the gradient of the land also does not allow for formal sewer reticulation and formal structures with services; water and chemical toilets are available with a 1:4 ratio to the residents. The fifth set of criteria is the adequacy of space, due to the reblocking of the area, space is limited as the planner tries to accommodate as much people as possible whilst still ensuring access in and around the settlement. Additionally the actual structures are only 18m² in size. Thus the OR Tambo TRA fails at fulfilling this criterion. The sixth set of criteria is adequacy of physical security, this criteria is problematic to access as it needs to be measured over time and a crime analysis needs to be done that only pertains to the TRA and not the whole area in which it fits in. The seventh set of

criteria is security of tenure. The TRA is not a permanent development and structures are temporary therefore tenure cannot be given to the beneficiaries. The eighth set of criteria is future prospects of development. There is no future development or investment into the TRA however the City of Cape Town Municipality's permanent solution to house these people is the development of the Bosasa IDA. The IDA's structures are bigger, engineering services are formal every structure has internal toilet and water points and tenure is an option. The ninth set of criteria is availability or accessibility, the development of the TRA was only available to a small portion of the victims of the disaster. Which proves to be inadequate as it leaves other victims homeless and increases their already vulnerable situation.

The evaluation of these criteria has allowed for secondary case study research questions to be answered. One of the questions was to understand and assess which is the more humane / dignified environment for the beneficiaries. In terms of adequacy of shelter and service provision the Bosasa IDA seems to be the a more humane and dignified living environment that will reduce the amount of risks that is present in informal and temporary living arrangements, however it is not located in Khayelitsha and relocation is not a desired option. The next secondary case study research question is which spatial arrangement holds the best short, medium and long term opportunity. Upon the analysis the best short term solution is the TRA however as aforementioned it is an unsustainable allocation of government resources as well as the temporary nature of the living environment that it creates for the beneficiaries. Moreover, relocating beneficiaries between a short and medium solution is unjust as it further exacerbates their already vulnerable situation. A long term opportunity should be to try and locate vacant municipal owned land within the area, in this case within Khayelitsha with adequate service provision and structures that can be incrementally developed over time by the beneficiaries.

3.6 Key priorities to be addressed in the emergency housing discourse that has been realised through the contextual analysis process

This section will discuss key priorities identified through the contextual analysis process. These priorities will inform interventions made in the next chapter. This section will further discuss these priorities.

This chapter has alluded to the importance of utilising developable land in a more sustainable manner. As mentioned in this chapter, finding land for the use of social housing is a problem within the City of Cape Town. Therefore, land made available for the use of social housing should be used in a more sustainable manner. The one plot, one house concept should be dismissed and new innovative living environments should be adopted so that more people can have access to

an adequate living environment. Also what is pertinent is that planning tools and policy should be used in a more collaborative manner to ensure more effective delivery of housing in an integrated manner to address additional socio-economic problems present in informal settlements. Furthermore there should be a process that ensures that co-operative governance and interdepartmental cooperation, to ensure adequate function and coordination during a case of emergency or when dealing with the everyday nature of risks present in informal settlements. Lastly, policy processes and forward planning tools should be used in a more collaborative proactive manner to try and minimise the nature of everyday emergencies and risk accumulation activities.

3.7 Conclusion

This chapter has critically analysed the legislative, planning and policy framework that pertains to Emergency Housing discourse and disaster management in the form of the City of Cape Town Municipality. Additionally, the chapter has given a contextual analysis of the case study area in terms of the fire disaster; the need for the TRA; its development; the City's longer terms solution of an IDA and the implementation of IDA and current delays. It is important to understand that decisions made by officials, and NGO's affect victims of the disaster and what is unfortunately not apparent is the lack of collaboration between decision making authorities and beneficiaries to come up with a sustainable solution together. Thus, the pre and post- disaster process is inadequate and further places victims of disaster in a vulnerable position in terms of their livelihood.

**Chapter 4: Using Urban Planning to ensure a more sustainable,
integrated and streamlined response to emergencies created in
Informal Settlements**



4. Introduction

This chapter seeks to respond and put forward interventions based on research gathered throughout the research process thus far. The purpose of this chapter is to put forward the potential contribution and to improve existing relationship urban planning can make to the situation created in an Emergency housing context. Furthermore, this chapter adds new ideas as possible solutions to current emergency response practices mandated through the Emergency Housing Programme. As the planner, it should be ensured that there should be a well-defined and clear process that facilitates collaboration between various government departments with the intention of being more proactive rather than reactive with regard to risk management. This proactive lens is based on the International Strategy for Disaster Reduction which reflects a major shift from the traditional emphasis on disaster response to disaster reduction, and in effect seeks to promote a "culture of prevention" (UNISDR, 1999). This chapter will be based on key priorities presented at the end of the previous chapter and will be organized using the five step process shown in figure 13, this process is used to manage risk reduction.



Figure 13: Risk Management through a 5 step process

Source: Benson and Twigg, 2007 cited in Benson, 2009: 14.

Built environment professionals such as planners should incorporate the term sustainable development as an integral part of their decision making processes. Sustainable development practices should be based on the goal to “make all cities socially inclusive, economically productive, environmentally sustainable, and resilient to climate change and other risks”

(Sustainable Development Solutions Network, 2013). In addition to these broad based sustainable development goals cities should also “develop participative, accountable and effective city governance to support rapid and equitable urban transformation” (Sustainable Development Solutions Network, 2013). The focus is therefore on ensuring that all people have sustainable livelihoods. As stated in the Introduction, my normative position as a planner is to ensure that all interventions and practices are done in a democratic way; ensuring that everyone has access to a quality life such as service provision and opportunities to better themselves; and respecting those affected by disaster and treating them in a manner that they feel valued.

In relation to the temporal issues surrounding Temporary Relocation Area's (TRAs), decisions should be based on sustainable public participation practices, this means the public or those affected by the relocation should be consulted at all times to ensure that basic needs are met. The Temporary Relocation Area (TRA) and Incremental Development Areas (IDA) form of accommodation should embrace and be based on place identity and empowering local residents through provision of adequate humanitarian structures that are sustainable (Fox, 2000: 38-43). Place Identity is important in the local context especially in areas of informality where the community is closely knitted together. It is important to respect areas of spiritual and heritage significance that have emotional attachments in the local community. Development should not remove or dispose areas or structures that form part of the identity of an area. The development of TRAs and IDAs usually result in people being relocated from places with which they have social ties with and other non- tangible things of significance. This resulted in the OR Tambo informal dwelling fire disaster which resulted in some people to be relocated to Mfuleni, far from where they previously lived. Empowerment of local residents refers to involving locals in the development process so that they understand decisions made and can be involved in participating in the process. Within the context of this research these are key principles upon which development should be based upon namely, inclusivity, equity and empowerment; these principles are the corner stones of our country's democracy and reflect my normative position as a planner.

As this research has presented the City of Cape Town is still largely segregated and perpetuates the inhumane features of the apartheid spatial structure. Although there are comprehensive Housing and Informal Settlement Upgrading policies, and an Emergency Housing programme as well as Spatial Planning instruments such as the PSDF, CTSDf, District plan and the IDP these have not sufficiently addressed the challenge of providing enough adequate housing. The Emergency Housing Programme is both proactive and reactive; it includes situations of 'risk' and 'threat'. There

needs to be a disaster risk emergency response process policy recommendation, which is aimed at disaster risk mitigation, management and response. This process should enable various budgets and plan approvals to be fast tracked in times when an “emergency response” is needed. In addition, the process recommendation should address the TRA process and its temporal status and importance of each TRA to be formalised over time into IDA's using available planning resources. This process will be further articulated in this chapter.

It is important as the literature has demonstrated, to understand that risk is a product of hazard and vulnerability places emphasis on the value of social, economic and cultural processes in shaping whose is in danger of environmental harm (Pelling & Wisner, 2009: 201). Additionally, Pelling and Wisner (2009) points out that it is the same lower income and marginal groups who are most at risk. We with the power to instigate change, we refers to planners, decision makers and civil society, cannot continue to foster the accumulation of risks present in informal settlements, thus realistic interventions are necessary that addresses multiple layers of approaches. Interventions presented in this chapter are divided into spatial interventions and policy process recommendations. For certain interventions I will refer to case studies which have informed the intervention.

4.1 Key priority areas

In the contextual analysis chapter key priority areas were identified based on the analysis. Proposed interventions presented in this chapter will be based on these broad priorities which in turn become goals. Through developing these priorities into goals it provides a framework for action, the aim of developing a framework is to show measurable results (Community Toolbox, 2014). These priorities are listed as: prevent the everyday nature of emergencies; utilising developable land in a more sustainable manner; utilising planning tools and policy in a more collaborative manner and there should be a co-operative governance and interdepartmental cooperation process during a case of emergency. For this Chapter it is important to understand that these priorities inform the interventions presented.

4.2 Awareness-raising: Informants of Spatial Intervention Hazard Mapping

This section is the first step of the risk management five step process. Step one is referred to as awareness-raising which means anything that involves people understanding, learning or doing something new; visioning the future; working out how to change something in their lives; or talking to someone else about what they've done – all are part of the process of raising awareness about the need for transition (Bradley, 2013: 1). Transition in this context means changing from living with risks

that create emergencies to changing that environment so that it will start becoming resilient to risks and emergencies. This process helps communities to become mindful of certain everyday practices that could result in potential disasters. Additionally these interventions are also used to allow more collaboration between government and the community towards one common goal of managing risks better and being proactive in terms of minimizing the occurrence of informal dwelling fire disasters.

4.2.1 Participatory Risk Assessment

Participatory Risk Assessment is when government and local communities work together. The current participation process in the emergency housing discourse is only post disaster when on site facilitators explain to victims of disaster the importance of settling in a certain manner as explain in the previous chapter. There is no single definition of participatory risk assessment (UN Habitat, 2007: 199). A case study of participatory risk assessment from Lima (Peru) will be presented below where through adopting participatory risk assessment has resulted in building better community resilience through strengthening local capacity (UN Habitat, 2007: 199).

Lima, Peru strengthening local capacity through participatory risk assessment

(The whole case study presented here is taken from Sanderson, 1997 cited in UN Habitat, 2007: 200)

Lima is the capital of Peru which is located in South America illustrated in figure 14 below. Figure 15 on the next page illustrates Lima's coastal location (World Atlas).



Figure 14: Map illustrating Peru in relation its spatial location on the continent of South America

Source: World Atlas



Figure 15: Map illustrating Lima's coastal location in Peru

Source: World Atlas.

Lima's spatial location places it at risk naturally of earthquakes, floods and landslides. One of the city's high risk zones is Caquetá, which is a highly congested area with large amounts of waste produced by street traders and as irregular rubbish collection service. An estimated 15, 500 people live in the area in 3000 formal and informal dwellings consisting of a mixture of wooden shacks and four-and-five storey concrete frame/brick-infill rendered houses. The Caquetá ravine, cut through by the Rimac River, is a site for potentially deadly combination of hazard and vulnerability. Poorly enforced building and planning codes, high densities and rapid urbanization (due to its proximity to commercial locations) combined with frequent landslides to increase vulnerability of the squatter housing perched on the ravine edge. As a result, shelter damage and collapse are frequent, with losses of investments and sometimes lives.

A risk assessment was undertaken –jointly by the Oxford Centre for Disaster Studies and the Peruvian non-governmental organization (NGO) Instituto Para la Democracia Local- to gather data on hazard, vulnerability and capacity to be used for formulating risk reduction plans. The assessment was undertaken using a combination of research tools. Participatory rural appraisal tools were applied during meetings with market and housing associations representatives. Activities included community mapping; time-line development to link the accumulation of risk with local disasters and recover; the development of disaster matrices recording views of causes and possible solutions; hazard ranking. Additional research tools included the review of existing research and preparation of maps identifying building and infrastructure standards, and administration of questionnaires with households and organisations.

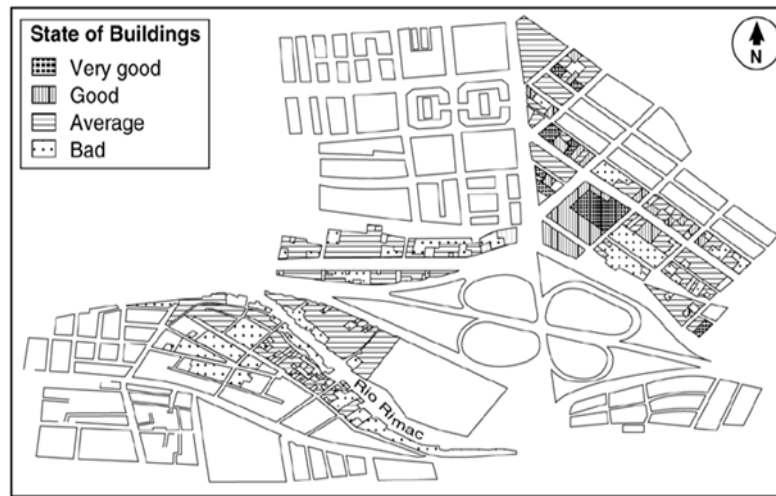


Figure 16: Participatory mapping state of buildings

Source: Sanderson, 1997: 258.

The assessment helped to build relations with key actors at community, NGO and municipality levels and importantly, provided credibility for the initiative among authorities. The assessment also helped to realise the importance of risk awareness and vulnerability reduction was recognised (The case study is taken from Sanderson, 1997 cited in UN Habitat, 2007: 200).

Participatory Risk Assessment Intervention:

The case demonstrates the importance of participatory risk assessment it should be aimed at strengthening community resilience against disaster occurrence. Participatory risk assessment is not a new term in disaster discourse in South Africa, it is mandated by Disaster Management Act, 2002 (Act No. 57 of 2002). Participation is the corner stone of South African democracy and if it is done in a more meaningful manner it could potentially further contribute to create a more transparent government and its bureaucratic perception could be dismantled. Current practices when measured against occurrence of big devastating incidents such as the BM Section fire, it gives rise the practice not being streamlined as being as important as it should be. Thus the intervention put forward is to make community participation a key informant in developing hazard maps that are able to actively inform planning tools such as the Spatial Development Framework (SDF), District plans and Integrated Development Plan (IDP). The Integrated Development Plan (IDP) can prioritise creating a safe city by using tangible data to make risk reduction a goal. Sanderson (1997:261) speaks of promoting mitigation as an approach to reducing risk which can play a key role in sustainable urban development. Mitigation in this context refers to using participation to further understand various contexts, so that risks that exist in these contexts can be understood and

managed and eventually its severity may be reduced. This should essentially be the aim of proposing workable bottom up interventions for the goal of sustainable development.

4.2.2 Early Warning Systems

Early warning is the cornerstone of disaster risk management (UN Habitat, 2007: 210). There are four interdependent components of early warning systems: risk knowledge; monitoring and warning; communication and response capacity (UN Habitat, 2007: 2010). Risk knowledge is both important for planners, decision makers and people living on the ground such as communities living in situations of permanent emergency. Early warning systems should be adequately functioning so that those affected on the ground can take action against its impacts. This is essential in informal settlements which are characterized by formal systems not operating in this space such as a Fire Station. There should be better coordination amongst processes amongst actors with the power to intervene to reduce risks and be there to minimize risk impacts such as built environment professionals namely planners, to plan with the nature of risks in mind and other professionals who should be there to minimise impacts such as the fire department, coordination should be streamlined with improved systems in place. Ward councilors should ensure that informal areas have access to the Fire department by setting up mobile stations in informal areas with basic equipment; planners should ensure that basic access routes are adhered to in informal settlements; and facilitators from local government should have regular meetings with community leaders to understand what is needed in the area. Early warning systems should be apparent especially in areas where the risk is the highest such as informal areas. Early warning systems require a level of commitment from political role players as well as an awareness of risk from the public so that it can be fully operational and effective should a case of increased risk arise.

4.2.3 The importance of Risk knowledge

Risk assessment is based on the tracking of information on hazards on a range of scales, from local to global, depending upon the character of the hazard and the nature of the city's vulnerabilities (UN Habitat, 2007: 210). Risk knowledge potentially could create a cautious environment for the local community it is particularly difficult to control man-made disasters such as informal dwelling fires. However, if people are more cautious and simply make sure that candles are blown out before they go to bed could in itself make an impact in reducing risks in a settlement. Other cautious acts include switching off stoves and plugs as well as making fire in a controlled area such as a pit in the ground so that the fire will not easily spread. This type of risk knowledge is generated through data collection on practices in settlements that generate risks. Decision makers are those responsible to create risk awareness and are responsible for ensuring that other settlement needs are met.

The intervention is ensuring that access ways are adhered to in and around settlements; fire hydrants and fire proof dwelling material are provided for informal settlements. Currently fire proof are only provided in post-disaster situations thus the intervention is to made around intervening in a proactive manner to managed or reduce the spread of informal dwelling fires should the incident arise. Risk knowledge should be practiced through using the media perhaps adverts in local newspaper about reminding people to switch off appliances; put out fires with water. The intervention is to use newspapers to provide risk knowledge that pertain to the area or suburb. Another way to ensure that risk knowledge is spread is for community facilitators to do risk education campaigns in informal settlements. It is the responsibility for local government as in the case of the OR Tambo, to prevent such as incident, by providing information about how to be safer.

4.2.4 Risk Communication as a useful early warning tool

People centered risk communication approaches such as the participatory risk assessment and planning for appropriate response to early warnings require systems of communication to be in place and the use of appropriate language (UN Habitat, 2007: 210). It defeats the purpose of having early warning systems in place if it does not lead to timely warning and action due to lack of clear lines and methods of communication.

Effective early warning requires trust between those giving and receiving information (UN Habitat, 2007: 211). There needs to be coordination between role players that have the power to initiate change. Transparent and clear information flows can help to build trust by constraining opportunities for the concealment of imminent hazards. Early warning communication systems should be built on top of everyday communication networks (UN Habitat, 2007). One such example is Eskom they have gone to great lengths to ensure that people are aware of benefits involved in using energy saving bulbs by using radio stations; television advertisements; billboard advertisements; door to door Eskom employees to give free energy saving bulbs in exchange for old bulbs; pamphlets; social networking sites such as Facebook; email and mobile phones; also used the internet to give conserving electricity tips (Eskom, 2014). As mentioned in the previous section about risk knowledge additional suggestions are made such as using mobile phones to send messages to about emergency preparedness and avoidable activities that create risks; the local library could act as communicator to inform people about reducing risks.

These interventions explained in this section are needed to necessitate change and create risk awareness in local communities and to ensure that decision understand their role in risk management. These interventions are also key informants of the spatial intervention which is hazard mapping presented in the in this chapter.

4.3 Enabling Environment: Policy Process recommendations

This section is the second step of the risk management five step process. The enabling environment refers to an environment that can help implement a change in a process this environment is usually the legislative environment. Sufficient, appropriate legislative arrangements for disaster risk management, including the mainstreaming of disaster risk reduction into development, form a key component of an enabling environment (Britton, 2006; Pelling and Holloway, 2006 cited in Benson, 2009: 23). This section will expand on interventions needed in policy to ensure that pre and post disaster processes are managed in a streamlined manner.

4.3.1 Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP) should be used more proactively

The Emergency Housing Programme which is part of the Breaking New Ground (BNG) Policy should include a basic menu of improvement. This basic menu of improvement is based on the evaluation of adequate shelter as per Smit (2010) matrix. The emergency housing programme should be utilised in a more proactive manner along with the Upgrading of Informal Settlements Programme (UISP) to fund informal settlements to be upgraded to have adequate fire protection; access routes using the reblocking method used in the OR Tambo TRA; water supply; sanitation; health care and storm water controls. In the case where residents are to be relocated so that upgrading may commence, if located far from where they usually reside they should be subsidized using these programmes for additional costs incurred for example transport.

4.3.2 Process of better coordination between the three spheres of government and interdepartmental co-ordination

The case study analysed in the previous chapter the OR Tambo TRA gave an insight into a process that was fuelled through the disaster becoming a Nationalised one. National government department of Human Settlements should put in place disaster protocol so that there is a clear defined process. This quick, efficient and fast tracked process that was demonstrated in the development of the OR Tambo TRA in Khayelitsha, should be streamlined and coordinated by the planner in the Department of Human Settlements local government (in this case City of Cape Town) as an "Emergency Response" process to effectively assist victims should a disaster arise and this process should be used when implementing the UISP.

The process will be fast tracked in terms of approvals as it is based on creating sustainable livelihoods and often planning processes are known for taking sometime before reaching approval

phase. Thus this process will be called "The Sustainable Informal Upgrading/Post Disaster Process" all departments involved receive the plan at the same time and have three days to comment and make recommendations and thus in a week approvals can be made, instead of waiting months for upgrading to occur.

4.3.3 Land use planning process recommendation

Land use planning is perhaps the most fundamental tool for mainstreaming disaster risk reduction into urban development processes (UN Habitat, 2007: 205). Firstly it is important to understand the role of land,

Land plays a significant role in society. It is an important factor for production needed for agriculture; industry; residential; recreational; public and private developments and other economic activities. But it also serves as a principal instrument in fostering "social justice, development, provision of decent dwellings and health conditions, and therefore should be used in the interest of the society as a whole" (UN Conference on Human Settlements, 1976 cited in RCC, 2011: 10).

Therefore land use planning provides a framework within in which interventions to partner local actors for risk mapping and community resilience building can be undertaken (UN Habitat, 2007: 205). The case study presented in textbox x is an example of Cuba how as a country it has successfully integrated disaster risk planning with urban risk management (UN Habitat, 2007: 205). Through developing hazard maps through a process of participation with communities and the risk reduction plan land use planning can act as an integrating tool that integrates a multitude of hazards present in settlements. The RCC (2011) outlines land use planning options can be implemented into the current system so that risk reduction can be implemented spatially. These options are outlined as density control which is applying occupancy and density ceilings for allowed land uses; site selection and development controls which is keeping inappropriate land use and development out of hazard areas; design and building regulations which is application of appropriate building controls based on the hazards present in the area in this case of the City of Cape Town it should be made district specific as each district has different hazards; strengthening and retrofitting of existing buildings which is reinforcing existing buildings and structures in identified hazard areas; protection for lifelines which is critical facilities are ensured of their functionality during disasters; open space preservation which is specific areas used for low intensity and low density use to minimize property damage as well as used if relocation is required post disaster so that victims are not relocated to remote greenfield sites and public disclosure owners are compelled to reveal

information related to hazards in their property (RCC, 2011: 22-23). These recommendations should be included into current land use planning processes, currently the City of Cape Town has a zoning scheme which specifically permits certain uses per zoning, and disaster risk planning should be included in the zoning scheme as additional requirements prior to the development stage.

4.4 Change in operational practice: Hazard mapping

This section is the third step of the risk management five step process. Change in operational practice refers to adding something into a system that was not there before, this intervention is proposing an amendment to the current required layers when developing a SDF, District or Sub-District plan. Furthermore, this section will propose an intervention based on reducing the occurrence of disasters in informal areas where they are most prevalent. The intervention proposed is intended to use planning tools to mainstream risk reduction and policy to implement it as a mandatory part of planning. The proposed intervention is referred to as hazard and vulnerability assessment techniques used to identify the locus and potential impacts of disasters which are particularly useful in informing policy priorities and decisions (UN Habitat, 2007: 195). In order for risk assessment to affect change it needs to be incorporated within policies or legislation for disaster risk reduction (UN Habitat, 2007: 195). The literature has established that people are vulnerable to disasters because of poverty and marginalisation as well as the make-up of informal settlements further exposes them to the occurrence of disasters and risks. Risk assessment can result in change to be made in terms of mitigating impacts of everyday types of disasters as well as building disaster resilience amongst local communities affected by everyday hazards, risks and long term disaster impacts. According to UN Habitat (2007) risk assessment can provide information about:

- a) Hazards in an area that places it at risk.
- b) Identify location, character and probability of risks for relative risk assessment.
- c) Determine who and what are vulnerable, relative vulnerabilities, and pathways that have been generated and maintained by people and places in states of vulnerability.
- d) Assess the capacities and resources available for those at risk to ameliorate their vulnerability.
- e) Identify perceptions of risk held by those people at risk.
- f) Determine levels of risk that are acceptable to those at risk and the wider society.
- g) Generate input for forecasting future human vulnerability, hazard and risk.

- h) Provide input to decision making for policy and project decision making.
- i) Generate assessments of the capacity of municipal and national governments to undertake reconstruction following a disaster.
- j) Catalyse the raising awareness of risk awareness locally and among policy makers.

(UN Habitat, 2007: 195).

Hazard mapping is a result of a risk assessment; it spatialises risks prevalent in a settlements. The information gathered from the participatory risk assessment will help to further locate where risks are found spatially and what produces risks that relate to informal dwelling fires and other risks such as flooding in the area.

4.4.1 Hazard Mapping

Hazard assessment refers to evaluating and ranking potential hazards by their estimated frequency and intensity, and determining a margin of safety. Risk analysis is based on hazard assessment (Webfinance, 2014). The interventions as explained in the introduction will be presented to take into cognisance a multiple layer approach. Hazard mapping is intended to include more than one hazard that generates risk present in human settlements. The Organisation of American states Department of Regional Development and Environment (1987) explains the benefits of multiple hazard mapping, when an area is exposed to more than one hazard, a multiple hazard map (MHM) helps the planning team to analyse all of them for vulnerability and risk. Furthermore through planners facilitating the interpretation of hazard information, it increases the likelihood that the information will be used in the decision-making process. In either the planning of new development projects or the incorporation of hazard reduction techniques into existing developments, the MHM can play a role of great value (OAS Department of Regional Development and Environment, 1987). The use of these hazard maps can depict the spatial location, size and frequency of hazards (UN Habitat, 2007: 196).

This intervention is specifically aimed at the context presented in the City of Cape Town in informal settlements where informal dwelling fires are prevalent and claim livelihoods of many and in extreme cases even results in loss of life. Informal dwelling fires are mostly as a result of human negligence but its impacts are felt by those who have no responsibility of causing the incidence due to the nature of informal settlements lacking adequate services and formalized access ways to vehicles and pedestrian movement. The African Urban Risk Analysis Network (AURAN) Project

explained in this section, was to use the assessment tool to mainstream risk reduction and inform planners and decision makers about critical suburbs that needs intervention to mitigate the occurrence of disasters in the case study presented below the focus is on informal dwelling fires.

African Urban Risk Analysis Network (AURAN) Project: City of Cape Town case study

(The whole case study presented here is taken from Information adapted from The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002).

In 2004, the University of Cape Town's Disaster Mitigation for Sustainable Livelihoods programme signed an implementing agreement with the International Institute for Environment and Development to execute activities planned as part of the newly established African Urban Risk Analysis Network. Specifically, these activities focused on: Further strengthening understanding of urban risk processes in the City of Cape Town Metro-with specific focus on informal settlement vulnerability; building capacity among local partners to more effectively use and apply quantitative and spatial information on risk patterns in informal and low income areas; developing the AURAN extranet website and facilitating and undertaking one exchange visit to another AURAN affiliated partner.

The AURAN project placed specific emphasis on informal settlement fires as these are an increasing priority risk in the City of Cape Town. The Project specifically aimed at strengthening understanding of the drivers of risk in informal settlements as well as low income formal housing areas. It resulted in the upgrading of the MANDISA database. The MANDISA database (Monitoring, Mapping and Analysis of Disaster Incidents in Southern Africa) that can be used as a strategic planning tool by disaster risk management and development practitioners/decision makers. The database contains disaster events ranging from 1999-2004, providing fifteen years of consolidated disaster incidents for the City of Cape Town. This provided an invaluable opportunity to obtain greater insights into the City's risk profile.

The information generated by MANDISA has been used for strengthening understanding and strategic intelligence on fire risk patterns in the Metro-South East area that Khayelitsha is a part of (The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP), 2002: 3). MANDISA provides a complementary form of 'early warning' system. Needs to explore settlements highly vulnerable to high magnitude of fire events. It provides a tool to mainstream risk reduction (The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP), 2002: 26).

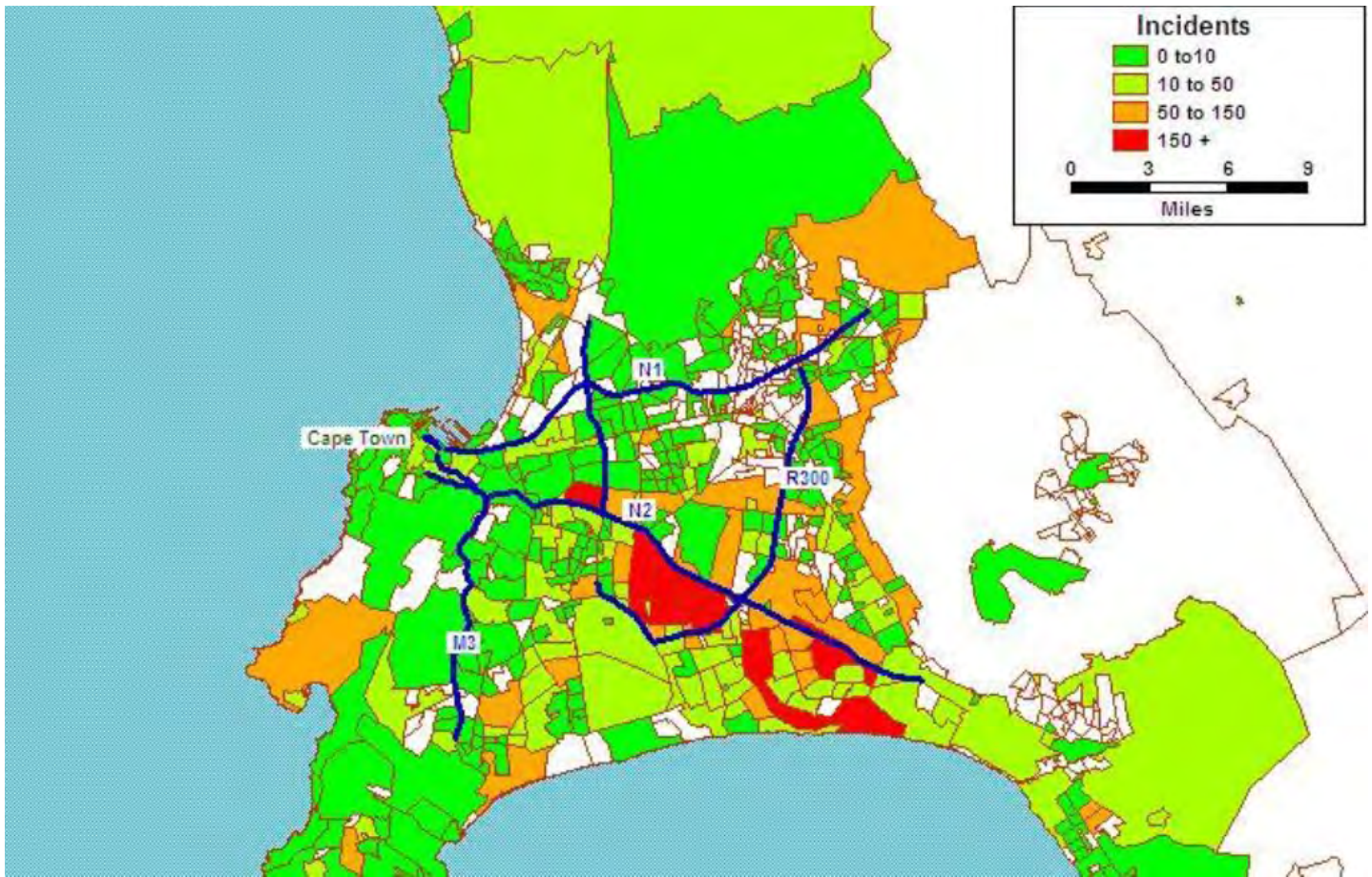


Figure 17: The number of informal dwelling fire incidents for the City of Cape Town (1990-2004)

Source: The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002: 15.

Figure 17 represents the total number of informal dwelling incidents across the Cape Metropole over a fifteen year period. The green category represents those suburbs where between 0 and 10 informal fire incidents occurred from 1990 to 2004. The red category which is known as the Metro South East which Khayelitsha is a part of, is for those suburbs where more than 150 incidents occurred during the study period (1990-2004) (Information adapted from The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002: 15).

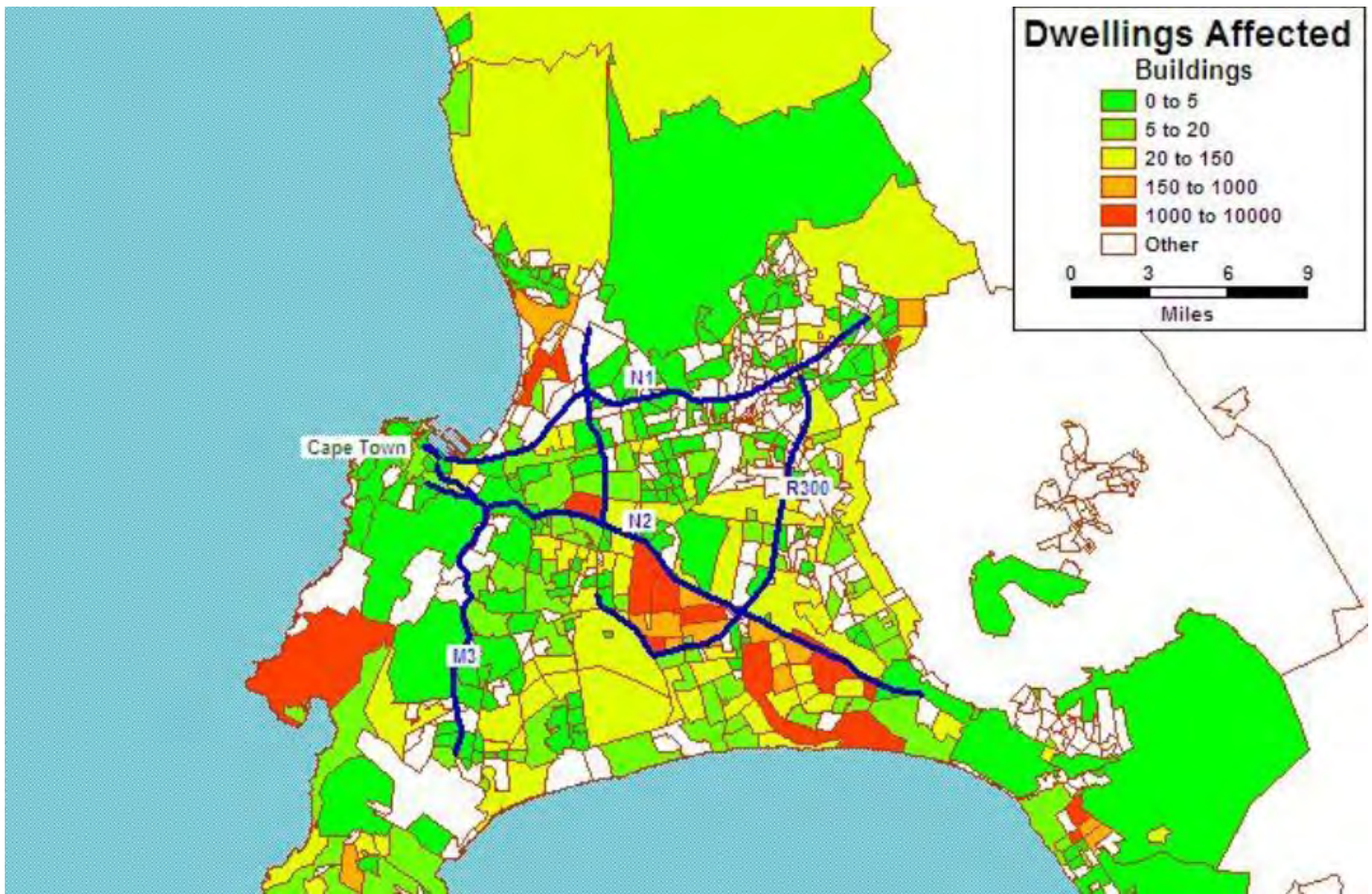


Figure 18: The total number of informal dwellings affected by fire in the City of Cape Town (1990 to 2004)

Source: The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002: 16.

Figure 18 illustrates the total number of informal dwellings either damaged or destroyed by fire from 1990 to 2004. Furthermore, the map represents the total number of dwellings destroyed for each suburb over the period 1990 to 2004 (The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002: 16). In the Metro-South East area of Cape Town which Khayelitsha is a part of, there have been over a 1000 dwellings affected by fire incidences as represented on the map.

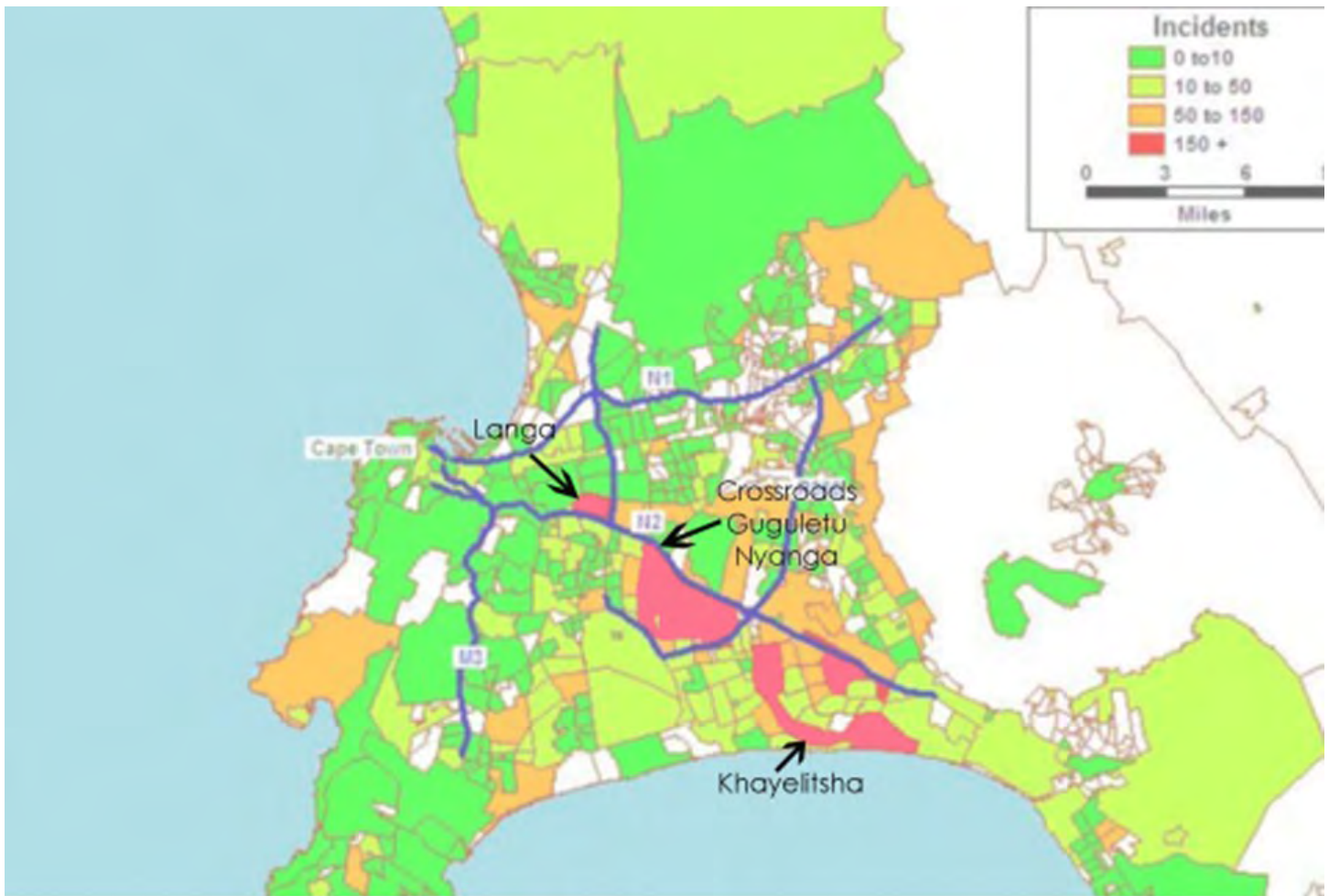


Figure 19: Map illustrating suburbs with the highest amount of incidents

Source: The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002: 17.

The map illustrated in figure 19 above illustrate the suburbs that have the highest occurrence informal dwelling fires within the Cape metropole. Khayelitsha whom the previous chapter case study focused on is one of the highest suburbs that have informal dwelling fires (The case study is adapted from The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) Report, 2002).

Hazard Mapping Intervention:

These hazard maps such as figure 19, presented in this section should be required as part of The City of Cape Town's Spatial Development Framework. Legislatively it should be mandated through the Municipal Systems Act section 34 (No 32 of 2000) and section 4 (6) of the Land Use Planning Ordinance (No 15 of 1985), it is important as it would allow the City to be more proactive in minimizing or putting in mitigating measures to reduce the occurrence of preventable disasters such as informal dwelling fires. Figure 20 (page 81), is the current Cape Town Spatial Development Framework overlayed with Fire incidences around the City. This intervention is made so that it can inform decision makers of areas that require immediate intervention. It will also improve planning in

terms of being more strategic in terms of goals set out and risk management can be incorporated into planning frameworks. Furthermore figure 20 illustrates suburbs that have the highest occurrence of informal dwelling fires, figure 21 is the Khayelitsha Sub- District plan which forms part of the Greater Blue Downs and Khayelitsha District plan mandated by section 4 (10) of Land Use Planning Ordinance (LUPO) of 1985 and/or the equivalent as provided for in terms of any subsequent legislation that may replace LUPO. Figure 21 considers all informal settlements in Khayelitsha to be risk management areas where risk awareness raising should occur to help educate people living in informality about how they can minimise the occurrence of fires that impact their livelihoods.

Including these maps into spatial frameworks allows multiple hazards to be mapped that affect settlements for example areas prone to flooding should also be included. Utilising the multiple hazard mapping assessments creates an environment that can become prone to risks and even in the case of risks it is prepared because effective planning. Effective planning is what enables people to become resilient through early warning systems; awareness; communication and risk management. Multiple hazard mapping, provides a more equitable basis for allocating disaster planning funds; stimulates the use of more efficient, integrated emergency preparedness response and recovery procedures; and promotes the creation of cooperative agreements to involve all relevant agencies and interested groups (OAS Department of Regional Development and Environment, 1987).

Through implementing hazard mapping as a form of risk assessment into planning tools it will address a key challenge which is emergency preparedness. The current focus remains on emergency response and reconstruction rather than mitigation, preparedness and investing in disaster resilient development (UN Habitat, 2007: 217). Hazard mapping is also a form of data collection and is a form of early warning systems this intervention will enable government and community to work together in a collaborative manner as communities are the ones who understand the everyday living environment and government has the power to intervene and make a difference through funding mechanisms. Working together is how a democratic country and city should operate. Additionally the intervention discussed in this section will create a proactive preventative environment where eventually it is hoped that resilience will be an innate part of the living environment where sustainable principles are met which are an accountable and effective city governance to support rapid and equitable urban transformation" (Sustainable Development Solutions Network, 2013).

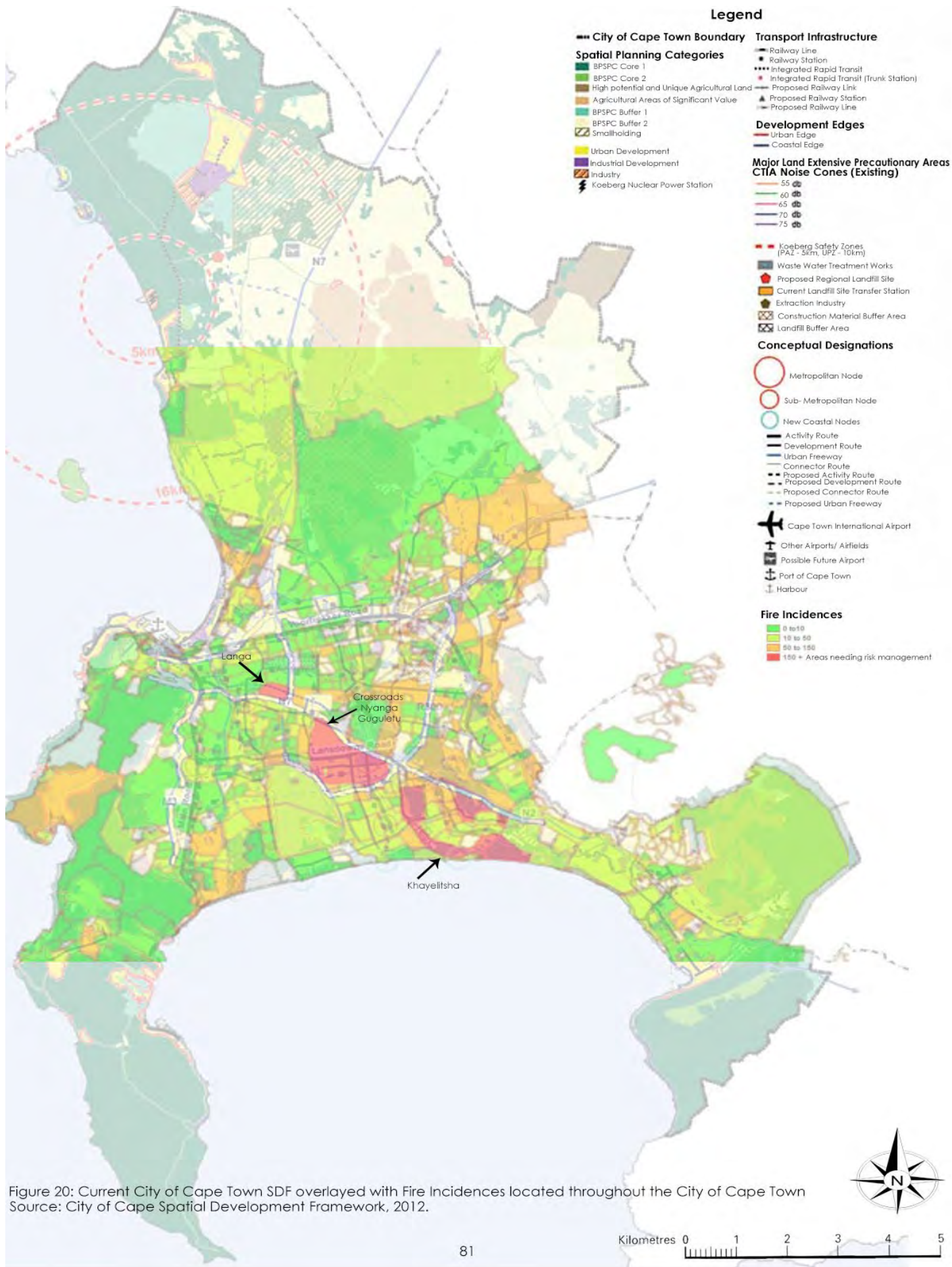


Figure 20: Current City of Cape Town SDF overlayed with Fire Incidences located throughout the City of Cape Town
Source: City of Cape Spatial Development Framework, 2012.

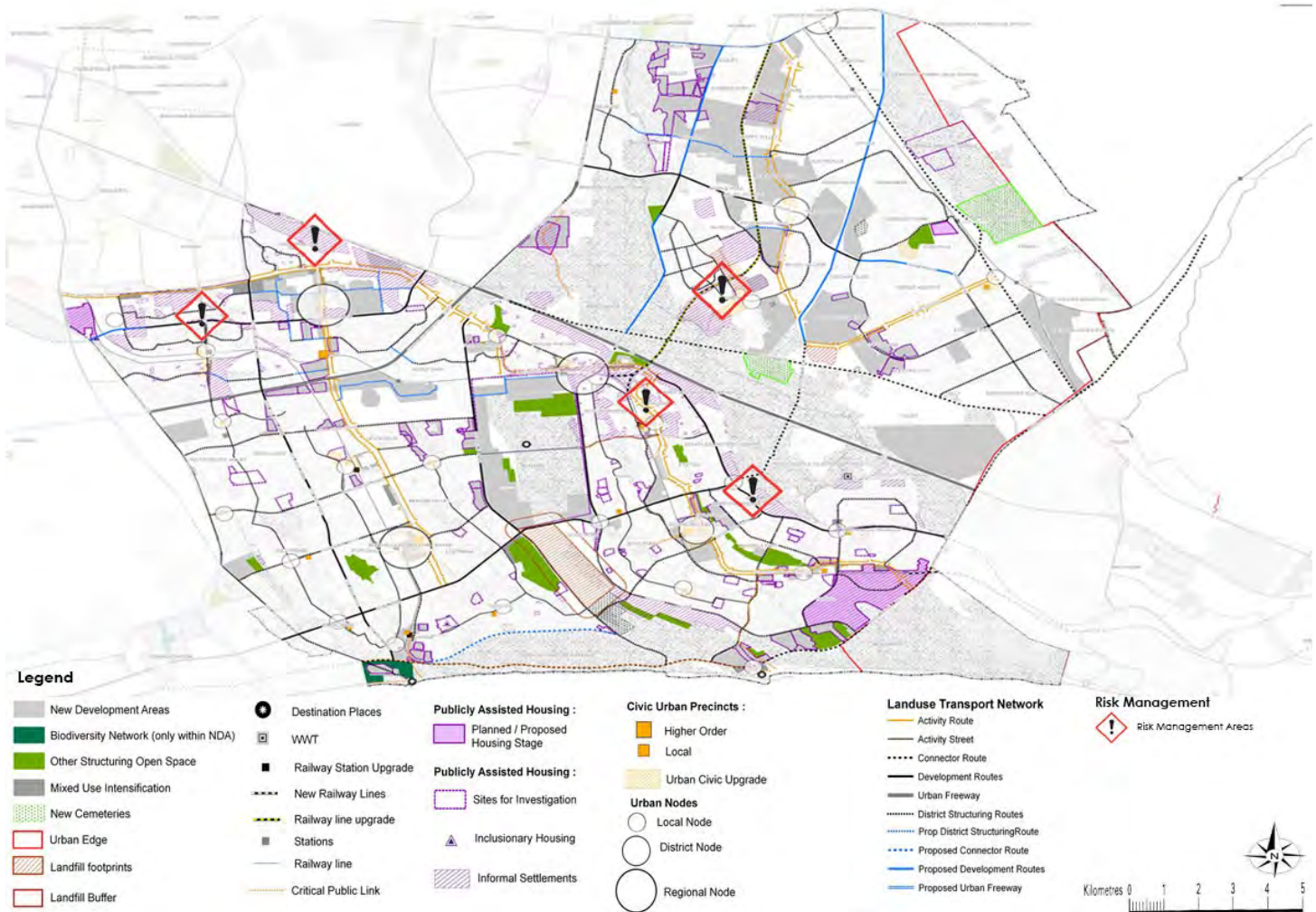


Figure 21: Khayelitsha Sub-District Urban Restructuring Plan incorporating Risk Management

Source: City of Cape Town, 2011. (Author, 2014 incorporating risk management areas).

4.5 Measuring Progress: Response Capacity Intervention

This section is the fourth step of the risk management five step process. Measuring progress refers to, the improvement or evolvement made once new risk reduction strategies are implemented.

Response capacity is part of the early warning system. It refers to pre-planning and clear communication with the public, needed to ensure that there is appropriate action to prevent panic should an emergency arise (UN Habitat, 2007: 211). Cuba is a principle case study (presented on the next page) that has taken on risk reduction in an integrated manner to address many societal problems that exist in many Global South countries which South Africa is a part of. South Africa connects well with the Cuba as it shares in socio- economic problems, however in South Africa these problems are not addressed in an integrated manner but rather individually.

Risk reduction Cuba

(The whole case study presented here is taken from Thompson, 2007 cited in UN Habitat, 2007: 212)

Cuba's integrated system of disaster management has succeeded in saving the lives of many and built the resilience beyond the level that might be expected from the country's economic status. Central to Cuba's risk reduction is the government's stated priority that its fundamental commitment during a hurricane is to save lives. The country's risk reduction plan and disaster preparedness structures support this commitment to save lives through the following:

- a) A disaster preparedness plan, which incorporates a specific focus on the most vulnerable, provides for monitoring their situation and adapts plans to address specific needs;
- b) In most disasters, local knowledge and leadership play key roles but unacknowledged roles in disaster risk reduction such as the national civil defense structure, the Cuban model incorporates these as central;
- c) Practical, effective, lifeline structures, with particular emphasis on mass evacuation and use of safe secure shelters;
- d) a 'culture of safety' that creates trust and awareness necessary to motivate people to cooperate and participate in risk reduction;
- e) citizen participation by incorporating community mobilisation in a three tiered system of participation in planning, community implementation of lifeline structures and creation and building of social capital.

Since 75% of Cuba's 11 million people are urban, the country's disaster preparedness plan has a strong focus on being operational in urban areas. Cuba's model also owes a lot to its unique system of government and its socio-economic model, which has consistently addressed risk reduction through policies of social and economic equity and poverty reduction. These policies have produced 'multiplier effects' that enhance risk reduction in many ways. The adult population is 100% literate and therefore can access educational materials about disasters, and all children are exposed to disaster preparedness in school curricula. There is an adequate road system in the country that facilitates speedy evacuation and building codes are enforced, which reduces the element of highly vulnerable substandard construction. Approximately 95% of the households in the country have electricity and therefore can access information about disasters through radio and television. Finally, the intricate web of social, professional and political organisations in the country provides organisational structures that can be quickly mobilised in the case of a disaster.

The Cuban government is unique in that it has paid an equal amount of attention to the structural and physical aspects of disaster preparedness, but also created a 'culture of safety' through successful education and awareness campaigns. It has also demonstrated the central importance of management capacity and political will in successful risk reduction. This holds out real possibility and hope for other countries, rich and poor alike, facing the growing dangers of natural hazards Thompson, 2007 cited in UN Habitat, 2007: 212).

Response Capacity Intervention:

As elaborated in the previous Chapter the City of Cape Town has an existing Disaster Management Plan however it is not well integrated into planning tools such as the Integrated Development Plan (IDP). One of the IDP's strategic focus areas is to have a 'safe city' but the focus area is not well expanded upon. Thus an intervention is needed just as Cuba has done, to make the process integrated and address various other problems such as poverty reduction; social and economic equity; improve literacy levels especially in informal settlements such as Khayelitsha; access to electricity through this people will rely less on using fire as a form of light, warmth and to make food. These goals should be streamlined into the IDP so that it ensures that these goals are met through adequate budget provision and is part of a strategic focus area of creating a 'safe city'. The existing IDP for the City of Cape Town should include these additional goals to meet the principle goal of a 'safe city' this goal should include the aforementioned problems and give it a timeframe of 15 years and reviewed every 5 years as the IDP is reviewed so as to ensure goals are met. This goal of creating a 'safe city' should be implemented across all informal settlements identified in the SDF as being prone to fire incidents (as illustrated in figure 19) so in this case Khayelitsha is one of them. Firstly, literacy levels should be addressed so that all people can understand how to read risk awareness advertising; and then electricity so that people may rely less on making fire. Thus the response capacity of decision makers will be strengthened as well as those affected by disaster. This intervention will create a platform to start building resilience .

4.6 Additional recommendations that require further research and analysis

This section will look at additional recommendations put forward that require additional analysis.

4.6.1 Approaches to utilizing developable land in a more sustainable manner

Land is a problem in the City of Cape Town and there needs to be alternative approaches to the use of existing developable land. This section will make infer to approaches that need to be explored based on the fact that finding developable land for social housing is a problem identified

in the contextual analysis chapter. This section will be based on the assumption that existing developable land for social housing that exist in informal areas can be used differently to accommodate a variety of needs. In the planning phase of social housing or upgrading of informal settlements through the UISP programme. The site should be analysed taking into account the larger development context. Rather than simply focusing on one site one house as the current development approach is framed in, rather look at alternatives such as clustering of facilities. The CSIR (2010) gives an example of an educational cluster illustrated in figure 22, if this idea is translated into settlement making it would look like figure 23.

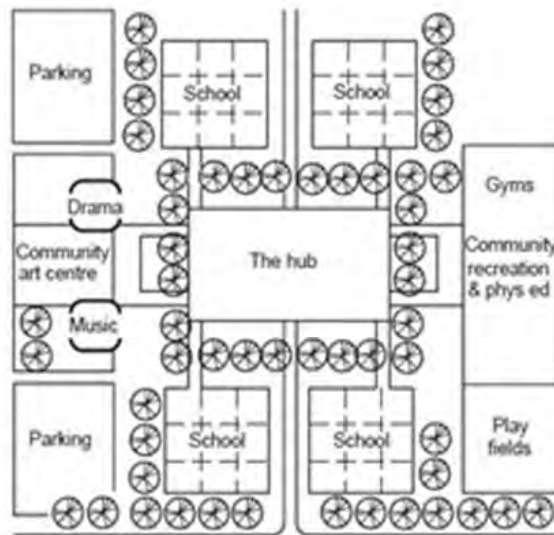


Figure 22: Educational facility cluster

Source: CSIR, 2010: 5 (Public Facilities).

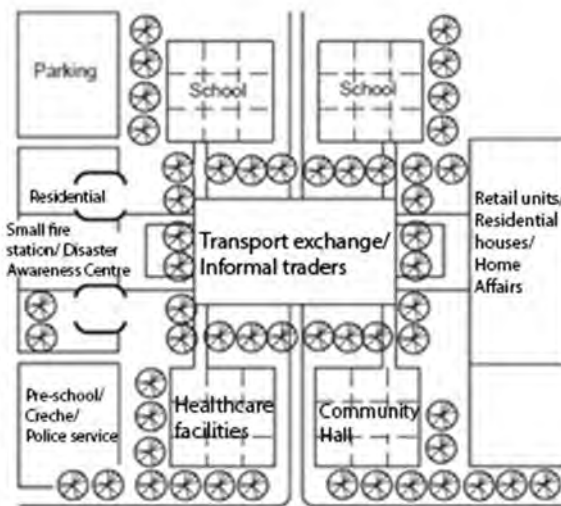


Figure 23: Settlement cluster of services and housing

Source: Author, 2014.

Informal settlement housing typologies should extend as in figure x rather than in figure x to ensure that there sufficient access ways in settlements.

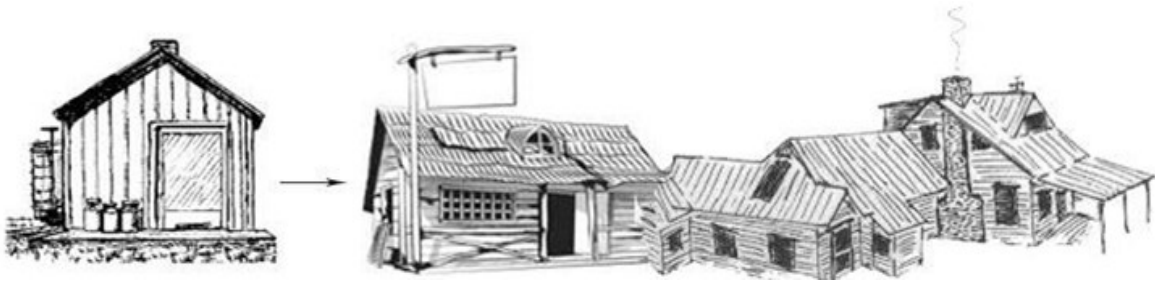


Figure 24: Vertically expanding shack (current situation in informal settlements)

Source: Author, 2014.



Figure 25: Ideal expansion to ensure access routes (expanding upwards)

Source: Author, 2014.

4.6.2 Additional analysis required to use hazard mapping to address a multitude of aspects that increase vulnerability

In order to address a multitude of hazards, the analysis portrayed hazards which is focused on reducing informal dwelling fires, what needs to be further researched is how socio-economic issues can be addressed in an integrated manner such as Cuba has done. Using the combination of physical hazards as well as socio-economic problems to be represented in hazard mapping can address an array of issues that increase human vulnerability and makes humans susceptible to the impacts of disasters. Thus the outcome is to create resilience to disasters as well as other socio-economic issues. Furthermore, there should be an analysis done that looks at what makes settlements vulnerable besides proper housing. Attention needs to be paid to what is needed to necessitate change in terms of institutional arrangements and legislation.

4.7 Learning and experiencing sharing

The five step process is based on managing risks , thus learning and experience sharing is based on measures that are put in place and once implemented questions arise as have these interventions worked? What can be improved? The most important areas where lessons can be learnt through experience is in the enabling environment and change in operational practice. It is an iterative process but it provides a platform of including an very important discourse which is disaster reduction as part of emergency prevention and sustainable settlement development.

4.8 Conclusion

The aim of this chapter was to use planning tools and new ways of approaching current development practices to manage risks better through being better resourced. Through the proposed interventions it is hoped that the occurrence of disasters will slowly be reduced thus government funding mechanisms and programmes, decision makers and planners can focus the attention on creating sustainable living environments. The interventions put forward in this chapter have also been made to address risk accumulation in a proactive manner to minimize the occurrence of disasters through ensuring that risk awareness is raised, there is an enabling environment that provides a framework of including disaster risk reduction and a change in operational practice that plans with risk prevention and reduction and progress is measured to improve response capacity. Planning tools such as the SDF; District; Sub-District Plans and the IDP are used in this chapter to include disaster risk reduction into plans so that it is addressed in a proactive manner to promote a "culture of prevention" (UNISDR, 1999).

Chapter 5: Implementing interventions to streamline planning and emergency processes



5. Introduction

The previous chapter outlined the interventions put forward. This chapter focuses on the implementation of these interventions. Some interventions are prioritized as more urgent to implement than others due to the fact that it is needed to necessitate change and enable workable interventions. Implementation is understood in this specific context as the process that puts a plan into effect, enacting an idea or intervention. Furthermore it is understood to put policy and process recommendations into action. Implementation is an important process as creates a platform which includes various stakeholders and gives them the opportunity to collaborate towards a common goal it is a good way for the local community to understand various government procedures which is often not misunderstood. Also, implementation can in some instances leads to new lines of trust being formed between the local community and implementation agents. The process of implementation helps to strategise interventions in realistic timeframes and prioritises the level of importance and what is needed to necessitate change. This Chapter outlines interventions made and how it will be implemented over short, medium or a longer term phasing process. Furthermore responsible stakeholders are identified as well who will be funding the implementation of the intervention.

5.1 Short term Implementation (1year)

This section will explain the interventions that should be implemented in the short term one year period. These interventions are considered to be important as it assists other interventions to be made possible.

5.1.1 Participatory Risk Assessment

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Participatory risk assessment	Community leaders; Ward Councilor; Local Government on-site facilitators and planner from the MDMC	High	Risk Management Partnership; Local Government funding; the MDMC and local community funding initiatives.	Short term (over a one year period)

Table 2: Participatory risk assessment implementation table

Source: Author, 2014.

The table 2 summarises the implementation action required for the participatory risk assessment intervention explained further in this section. Participatory Risk Assessment is a key intervention as it allows for the local community; government and disaster management stakeholders to work together towards a common goal which is raising awareness about risk management. Risk management is considered to be the role of the government to put forward measures of reduction; however arguably no one understands their context better than the people living in them. Therefore, participatory risk assessment is an important and fundamental intervention that enables those with power to intervene in the best manner guided by those living in environments that produce risks. Responsible implementing stakeholders are Community leaders which are elected by the local community to represent their needs and outcomes of the process. There should be Community Leaders from all informal settlements in Khayelitsha because risks are different in each settlement. Furthermore, Ward Councilors are also important as implementing stakeholders as they understand how processes work, in this case it would be the ward councilor of Khayelitsha which is ward 89 in the City of Cape Town. Government implementing stakeholders are there to facilitate and guide the process and explain possible outcomes, as this intervention is designed to be proactive as a tool to reduce risks, current on site facilitators that usually assist rebuilding of settlements in post disaster situations are to be used in a proactive manner to facilitate the participatory risk assessment process. Lastly, a planner from the Municipal Disaster Management Centre (MDMC) will be present to organize the risks into plans represented by figure 26 below.

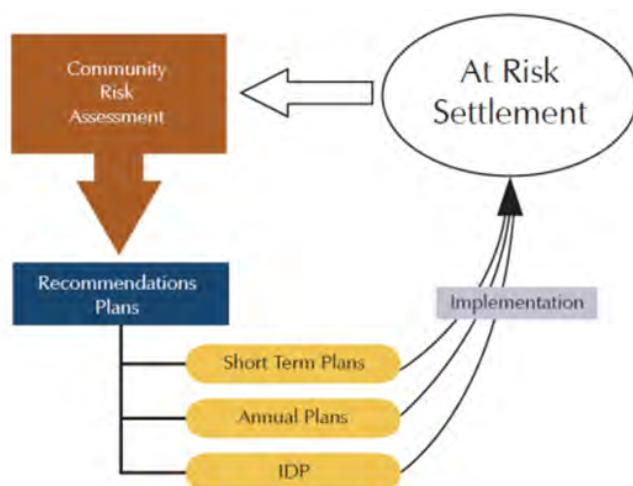


Figure 26: Risk assessment and planning process

Source: Disaster Mitigation for Sustainable Livelihoods Programme, 2008: 25.

This process will be a challenging task as there are many elements to consider and engage with from a local community perspective as well as the facilitation perspective as they represent Local Government which is the City of Cape Town. This process will be funded by a Risk Management Partnership which is partly City of Cape Town Department of Human Settlements Local Government funding; the MDMC and local community funding initiatives lead by the ward councilor. Through initiating a risk awareness process through participatory risk assessment it can be an ongoing function of the area which is Khayelitsha and the process can be adopted by other informal settlements in the City of Cape Town that also face similar risks and require intervention.

5.1.2 Hazard mapping

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Hazard mapping	Spatial Planning and Urban Design (SPUD) and The Department of Human Settlements (National, Provincial and Local)	High	Spatial Planning and Urban Design (SPUD) and The Department of Human Settlements (National, Provincial and Local)	Short term (over a one year period)

Table 3: Hazard mapping implementation table

Source: Author, 2014.

Table 3 summarises the implementation action required for the hazard mapping intervention explained further in this section. Hazard mapping intervention is phased in over a short term period of a year. It should be included into planning tools such as the SDF, and it should be prioritized into the IDP (1-5) as part of its five year goal strategy. This hazard map layer is a process of updating and making necessary amendments to include in the existing Cape Town SDF; The Khayelitsha, Mitchells Plain and Greater Blue Downs District Plan and the Sub-District plan for Khayelitsha. This process will act as risk reduction strategy so that planning can plan with the nature of risks and emergencies in mind.

Responsible stakeholders are Spatial Planning and Urban Design (SPUD) Directorate in the City of Cape Town local government and the Department of Human Settlements City of Cape Town

(National, Provincial and Local). These two responsible implementing agents have expert knowledge on spatial planning and human settlements and this gives them a chance to work in a collaborative manner to address change.

The funding for this intervention will be funded by the Department of Human Settlements National, Provincial and Local and Spatial Planning and Urban Design Directorate City of Cape Town. The reason for involving all three spheres of government is because the implementation of this intervention requires a change in operational practice. This intervention will be transferred into SDF's; District Plans and Sub-District Plans of areas that have informal settlements once again Khayelitsha will be a precedent example and other informal areas in the City of Cape Town can adopt the process into their District plans or Sub-District plans.

This section has discussed interventions that should be implemented in the short term as it assists other interventions to be implemented into an environment that enables further risk consciousness and plans are designed in such a way to manage risks present in informal settlements.

5.2 Medium term Implementation Phase (1-5years)

This section will explain interventions that are to be phased over a medium term of a 1-5 year period. The interventions presented in this section require funding schemes to be fully functional to be able to provide the necessary changes to settlements and living environments in order to move towards a system that effectively response to emergencies and increases risk consciousness.

5.2.1 Early Warning Systems

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Early Warning Systems	Western Cape Chief Directorate Disaster Management and Fire Brigade Services; Local Government Department of Human Settlements (Planning); ward councillor; Civil society and Department of Human Settlements Local Government on site facilitators.	Medium	Western Cape Government; Risk partnership which is the local community, civil society and local government.	Medium term (1-5years)

Table 4: Early Warning Systems implementation table

Source: Author, 2014.

Table 4 summarises the implementation action required for the Early Warning Systems intervention which is explained further in this section. Early Warning Systems are needed in order to delivery adequate risk management, systems need to be in place and apparent so that people can cope with risks and situations of disaster. Implementing early warning systems should be based on an existing platform of understanding of risk knowledge and communication which is done through participatory risk assessment. The interventions that need to be implemented is setting up mobile fire stations; maintaining access routes and facilitating ongoing community forums about risks in the area. This is a medium term phased process with clear goals in mind. Responsible stakeholders are the Western Cape Chief Directorate known as The Disaster Management and Fire Brigade Services; Local Government Department of Human Settlements (Planning); ward councilor (Khayelitsha ward 89); Civil society and Department of Human Settlements Local Government on site facilitators. The responsible stakeholder for coordinating the collaboration amongst these stakeholders is The Western Cape Government Chief Directorate. The reason for phasing in early warning systems is because it will take some time to have proper processes in place and to make sure that mobile fire stations only serve a well ratio amount of dwellings and are not dispersedly spread. Also adhering access routes may prove to be problematic as people in informal areas tend to settle in an unplanned manner without proper and adequate service provision. Moreover, community forums require a facilitation process which will be facilitated by Community Leaders, on site facilitators and the ward councilor. This intervention will be funded by the Western Cape Government; Risk partnership which is the local community, civil society and local government.

5.2.2 The importance of Risk Knowledge

Table 5 presented on the next page summarises the implementation action required for Risk Knowledge intervention which is explained further in this section. Risk Knowledge is an important element of ensuring early warning systems are effective, as explained in the intervention chapter. What needs to implemented to ensure that risk knowledge is understood by the local community, is ensuring that people living in informal dwellings have fire proof dwelling material. Also the risk awareness process requires people to have access to understand risks and what produces risks. Thus the medium of communication will be advertising in the local community paper in Khayelitsha which is called City Vision and risk education campaigns. Responsible stakeholders are Slum

Dwellers International (SDI) and the Informal Settlements Network which is also affiliated with SDI, they will provide fire proof dwelling material to the Khayelitsha informal settlements it will be done in a strategic manner where settlements that experience high amount of fire incidences will be given material first; City Vision will dedicate a page to risk education by advertising the importance of switching off appliances, putting fires out and risk education campaigns will be implemented by the Department of Education Western Cape Government. The implementation of this intervention will be funded by the Integrated Development Plan (IDP) it will be integrated as a medium term goal that deals with creating a Safe City.

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
The importance of Risk Knowledge	Slum Dwellers International (SDI); Informal Settlements Network; City Vision; Department of Education Western Cape Government	Medium	Integrated Development Plan (IDP)	Medium term (1-5 years)

Table 5: Risk knowledge implementation table

Source: Author, 2014.

5.2.3 Risk Communication as a useful early warning tool

Table 6 on the next page summarises the implementation action required for Risk Communication intervention which is explained further in this section. Once risk knowledge has been established by the local community, risk communication can be expanded upon and be part of an everyday reminder of generating awareness. Implementing risk communication initiatives require a large amount of responsible stakeholders: telecommunication companies responsible for risk preparedness communication by sending bulk messages to their users companies such as MTN, Vodacom, Cell C, Virgin Mobile, Telkom and Neotel; the local libraries in the City of Cape Town have a Smart Cape facility which provides computers and free Internet access to everyone in Cape Town (City of Cape Town, 2014). The Smart Cape service will implement risk communication

as part of their log in process with its login page will provide risk preparedness advice and information. Smart Cape will fund its own intervention and telecommunication intervention will be funded by The Independent Communications Authority of South Africa (ICASA) as part of their social development contribution on an annual basis.

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Risk Communication as a useful early warning tool	Telecommunication companies and Smart Cape	Medium	Smart Cape and The Independent Communications Authority of South Africa (ICASA)	Medium term (1-5years)

Table 6: Risk Communication implementation table

Source: Author, 2014.

These interventions presented in this section are phased over a five year period as multiple stakeholders are involved and there are instances where interventions are funded by responsible stakeholders.

5.3 Long term Implementation Phase (5-10 years)

This section will discuss the implementation of process interventions which is regarded as part of the enabling environment. It is difficult to predict how long it takes for a process to become efficient and effective thus a realistic phase of 5-10 years is assumed. This assumed period gives it time over two South African government terms (a Presidential term lasts 5 years) to be phased in properly.

5.3.1 Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP) intervention implementation

Table 7 on the next page summarises the implementation action required for the proactive policy intervention which is explained further in this section. Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP) intervention which is a menu of basic improvement. Responsible stakeholders are Non-Governmental Organisations and government

which are National, Provincial and Local Government Department of Human Settlements; Slum Shack Dwellers International (SDI) and humanitarian organisations that assisted in the development of the OR Tambo TRA in Khayelitsha they are the Gift of the Givers and Ikhayalami. The implementation of this menu of basic improvements is a collaborative effort between these responsible stakeholders however the process will be funded by the Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP).

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP) should be used more proactively	National, Provincial and Local Government Department of Human Settlements; Slum Shack Dwellers International (SDI); the Gift of the Givers and Ikhayalami.	High	Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP)	Long term Implementation (5-10years)

Table 7: Emergency Housing Programme and Upgrading of Informal Settlements Programme (UISP) implementation table

Source: Author, 2014.

5.3.2 Process of better coordination between the three spheres of government and interdepartmental co-ordination intervention implementation

Table 8 on the next page summarises the implementation action required for a process of better coordination between the three spheres of government and interdepartmental co-ordination, which is further explained in this section. This intervention is called "The Sustainable Informal Upgrading/Post Disaster Process". This will be implemented by the Department of Cooperative Governance and Traditional Affairs as the responsible stakeholder and funder of the process, based on their new approach to reducing disasters by putting people first, which is aimed at going back to ensuring that basic needs are met through simple provisions of street lights being operational (Cogta, 2014).

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Process of better coordination between the three spheres of government and interdepartmental co-ordination.	Department of Cooperative Governance and Traditional Affairs as the responsible	High	Department of Cooperative Governance and Traditional Affairs as the responsible	Long term Implementation (5-10years)

Table 8: Process of better coordination between the three spheres of government and interdepartmental co-ordination implementation table

Source: Author, 2014.

5.3.3 Land use planning process recommendation

Table 8 below summarises the implementation action required for a land use planning process recommendation which is further explained in this section. This intervention should be implemented by Provincial Western Cape Government. As part of the building an Opportunity City, and a Safe City these are part of the IDPs strategic objectives (City of Cape Town, 2014) and the IDP is funding this process recommendation. This is a phased process as it requires time to be implemented and streamlined into the existing land use planning process.

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Land use planning process recommendation	Provincial Western Cape Government	High	Integrated Development Plan (IDP)	Long term Implementation (5-10years)

Table 9: Land use planning implementation table

Source: Author, 2014.

5.4 Forward Planning Long term Implementation Phase (5-15years)

This section only has one intervention that is phased out over a fifteen year period as this intervention is measuring progress in the form of response capacity. Table 10 summarises the implementation of response capacity which is further explained in this section.

Progress can only adequately be measured over time when changes have been implemented to strengthen the system of managing risks and risk preparedness. The aim of the response capacity intervention is to approach risk management in an integrated manner considering socioeconomic risks as well as settlement risks. Thus the implementation of this intervention is about measuring progress through improving all aspects that make people vulnerable to risks. Responsible stakeholders are Department of Education Western Cape Government; Eskom and the Informal Settlements Network. The overall goal of this intervention will be streamlined into existing IDP strategic objective to create a 'safe city' and this will be funded by the Integrated Development Plan (IDP), planning will ensure timeframes for goals are met.

Key intervention being implemented	Responsible stakeholder/s	Priority	Funding	Phasing
Response Capacity	Department of Education Western Cape Government; Eskom; and Informal Settlements Network	Medium	Integrated Development Plan (IDP)	Long term (5-15 years)

Table 10: Response Capacity implementation table

Source: Author, 2014.

5.5 Conclusion

This chapter has discussed the implementation of the presented interventions. It is important to understand that the implementation of these interventions is planned in the current operational framework of government. It is the hope that should all these interventions be implemented along the proposed phasing and priority timelines, that the outcome would be that people still residing in informality will have access to basic services and that they would be prepared in the case of disasters as well as they would be aware of what places them in situations of risks. Additionally, the aim of this implementation chapter was to furthermore implement interventions to improve alignment, integrate urban planning processes and emergency risk procedures.

Chapter 6: Conclusion



6.1 Concluding remarks on the research subject matter

This quote below represents a strong concluding remark of the research presented in this dissertation, a quote by the UN Habitat (2007: 299-300)

For all aspects of disaster risk reduction, inclusive and participatory strategies and policies can offer scope for building empowerment, self-reliance and accountability for those who make decisions, strengthening the resilience of communities and cities.

Disaster risk reduction cannot be dealt with in isolation as the research has alluded to; it needs to be integrated into other strategies such as poverty reduction; socio-economic; housing and service provision; sustainable development strategies and access to educational opportunities. Disaster risk reduction strategies creates a platform of realising the problem, raising an awareness creating a new enabling environment using an array of tools as possible solutions such as spatial planning tools which can be used to create lines of trust and begin to build resilience. Risk reduction is part of a nested system and once all these systems are functioning interdependently then you will see sustainable livelihoods start to develop and a City that is transformed.

6.2 Reflection on the research process

Before undertaking the research I identified primary research questions as well as case (secondary) research questions. I chose the specific case study as it was declared a National disaster and it necessitated a quick response, before analysing the case study I was interested to find out why the three implementation agencies all interpreted the plan differently. I thought this would be a complex part of the research however there was a simple answer as I explained in the contextual analysis chapter. This surprised me, the research questions I had was very direct and as the process went on I uncovered a new understanding of the case study, one I did not have before. I now understand the institutional and the legislative environment in a more holistic way and certain perceptions I had was dismissed. I always thought of the government as doing little to intervene to better people's lives; however what this research process has revealed is that certain process and policies are not flexible enough to allow for necessary changes to happen. My interviewees were all government officials which gave me an insight in the person behind the official government title and upon strong reflection one thing that has stuck in my mind is the Director of Human Settlements passion when she speaks of victims of disaster as people, people like you and me and how we who have some have sort of power or influence should always keep in mind that we should work for those in on the ground. My research interventions have all been framed to be proactive through using forward planning tools such as the SDF and the IDP to integrate risk reduction strategies. It is

my hope and for so many that people who are homeless or live in desolate situations eventually are able to have homes, but as Pieterse & Simone (2013) bluntly point out, informal settlements are here to stay they have become features of our urban landscapes. One thing has remained with me throughout the research process, is the question of how can we improve situations in informality. The word integrated is used in many policies and planning frameworks but often left up to interpretation and hardly defined in a manner to understand it, my definition would be to address a host of problems with simple interventions so that the outcome after implementation is, change, even if it is gradual change, it's change nevertheless.

I hope is for my research to be used by the Department of Human Settlements and Spatial Planning and Urban Design (SPUD) Department City of Cape so that they can see the possibility of using planning in combination with the construction of human settlements as something that can potentially create what they aiming for which is; 'integrated, sustainable human settlements with embedded risk reduction strategies.'

6.3 Personal research reflection

Before entering into this research process my perception of human made disasters was assumed to be based on human negligence and lack of government intervention to provide housing for people. This is the problem with most assumptions though as Malone and Zaplin (2014: 1) points out, by acting on our assumptions as if they were true, we've constructed a reality that does not reflect what's happening in the moment. Thus it is important to do an inquiry or in my case, research so that you are able to learn and can fully understand the context, the cause of the problem and what is currently being offered as a solution. This process also opens up the possibilities of multiple interpretations and experiences of the same situations. Furthermore, Malone and Zaplin (2014: 1) speak about the power of an inquiry it helps you to notice the presence of assumptions and how those assumptions are biasing your judgment, we need to build in a pause, a moment where we can slow down, become more mindful, and learn how to bring our mind back to the present. In doing so, we purposely open our eyes to many new realities. The research process has allowed me to acquire knowledge about a subject matter I knew little about and the case study method helped me to contextualize where problems stem from and do an in-depth analysis around a specific case. It has opened my mind to the current reality of what causes emergencies in informal settlements and why the same people are always victims of these emergencies. My assumptions comes from a place of privilege I have access to adequate services, making a fire for me is a social event. Whereas people living in informality in Cape Town use fire as a source of livelihood, for light, to make

food and these people are the ones located on the periphery of a majestically beautiful city, Cape Town. While people like myself with my assumptions have homes in leafy suburbs with beautiful views of the ocean and our beloved Table Mountain. Thus the reason I pursued a career in planning is to open my eyes to the lived reality of my city, Cape Town and urbanity as a discourse. Cities are interesting in the way that it skilfully includes people and excludes people. People are no different what makes them different is their access to opportunities. These people I talk of that have gotten the best of my assumptions, are people like no other and they need to be included into a city of opportunity, one of The City of Cape Town's IDP's goals is to create an opportunity city (City of Cape Town, 2012). Upon further reflection it is important to work with people not for people, the contextual analysis chapter explains the Mfuleni IDA and how the project has stopped due to neighbours not wanting people to move into their new homes. This is as a result of working for the people; participation is an important process that needs to be done even in an emergency or a time constrained project. Furthermore this research process has also helped me to understand how far we have come as a city in the wake of transformation but at the same time we still have a long way to go and risk reduction is an important tool that allows for collaboration towards a goal of the good of the public and that is what planning is all about.

6.4 Research Limitations

The limitations of my research have been that I was not able to interview the head of the City of Cape Town's Disaster Management Centre; it would have been interesting to see how they proactively address disaster management within the City of Cape Town. Another limitation has been that I was not able to go visit and see the outcome of the Mfuleni IDA, the project has still not resumed. There has also been no chance for public engagement in terms of talking to the victims of the disaster that has been discussed in this dissertation.

6.5 Future research areas

These future research areas could add to the research body presented in this dissertation:

- a) Utilising a mixed use approach in developing social housing on well located land.
- b) Do early warning systems reduce risks and disasters in informal settlements?
- c) Applying lessons learnt from the OR Tambo TRA into future TRA and IDA projects through the lens of the evaluating the 'adequacy of shelter' criteria.

- d) Does proactive interventions reduce risk accumulation in informal settlements.
- e) Does the Disaster Management Act, 2002 (Act No. 57 of 2002) fulfil its mandate by attempting to address the everyday nature of emergencies generated by informality?
- f) Does provision of housing address poverty reduction?

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Annexures





SCHOOL OF ARCHITECTURE, PLANNING AND GEOMATICS

University of Cape Town
Private Bag x3, Rondebosch 7701
Centlivres Building
Email: Janine.Meyer@uct.ac.za Tel: 27 21 6502359

UNIVERSITY OF CAPE TOWN

June 2014

MY NAME IS CHADERNNAY BRINK AND I AM STUDYING CITY AND REGIONAL PLANNING AT THE UNIVERSITY OF CAPE TOWN.

MY RESEARCH DISSERTATION TITLE IS 'MOVING TOWARDS A STRATEGY FOR THE SUSTAINABLE DELIVERY OF EMERGENCY HOUSING AND TEMPORARY RESIDENTIAL ACCOMMODATION IN THE CITY OF CAPE TOWN. A CASE STUDY: OR TAMBO TRA KHAYELITSHA.' AS PART OF MY MASTERS DISSERTATION AND I WOULD LIKE TO ASK YOU SOME QUESTIONS TO HELP ME WITH MY RESEARCH.

I WOULD LIKE TO USE YOUR NAME, DESIGNATION AND POSSIBLY DIRECT QUOTES IN MY DISSERTATION AS A SOURCE OF INFORMATION. PLEASE INDICATE YES OR NO BELOW TO GIVE OR WITHOLD YOUR PERMISSION FOR ME TO DO THIS.

YES I GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION / WORDS IN YOUR DISSERTATION

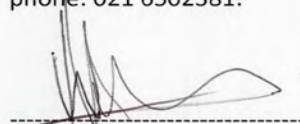


NO I DO NOT GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION /WORDS IN YOUR DISSERTATION

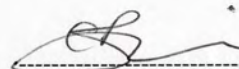


IF YOU WANT TO END THE INTERVIEW AT ANY POINT YOU ARE FREE TO DO SO.

MY SUPERVISOR IS TANIA KATZSCHNER AND HER CONTACT DETAILS ARE Tania.katzschner@uct.ac.za; phone: 021 6502381:



Signature and designation (interviewee)



Signature of student



SCHOOL OF ARCHITECTURE, PLANNING AND GEOMATICS

University of Cape Town
Private Bag x3, Rondebosch 7701
Centlivres Building
Email: Janine.Meyer@uct.ac.za Tel: 27 21 6502359

UNIVERSITY OF CAPE TOWN

June 2014

MY NAME IS CHADERNNAY BRINK AND I AM STUDYING CITY AND REGIONAL PLANNING AT THE UNIVERSITY OF CAPE TOWN.

MY RESEARCH DISSERTATION TITLE IS 'MOVING TOWARDS A STRATEGY FOR THE SUSTAINABLE DELIVERY OF EMERGENCY HOUSING AND TEMPORARY RESIDENTIAL ACCOMMODATION IN THE CITY OF CAPE TOWN. A CASE STUDY: OR TAMBO TRA KHAYELITSHA.' AS PART OF MY MASTERS DISSERTATION AND I WOULD LIKE TO ASK YOU SOME QUESTIONS TO HELP ME WITH MY RESEARCH.

I WOULD LIKE TO USE YOUR NAME, DESIGNATION AND POSSIBLY DIRECT QUOTES IN MY DISSERTATION AS A SOURCE OF INFORMATION. PLEASE INDICATE YES OR NO BELOW TO GIVE OR WITHOLD YOUR PERMISSION FOR ME TO DO THIS.

YES I GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION / WORDS IN YOUR DISSERTATION



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Signature and designation (interviewee)

Signature of student



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UNIVERSITY OF CAPE TOWN

June 2014

STATEMENT TO BE READ OUT TO AN INTERVIEWEE BY A STUDENT ABOUT TO UNDERTAKE AN INTERVIEW FOR THE PURPOSES OF A MASTERS DISSERTATION, AS A REQUEST FOR PERMISSION FOR THE NAME AND/OR IDENTITY OF THE INTERVIEWEE TO BE REVEALED IN THE DISSERTATION

A copy of the form can be given to the respondent if they request it.

MY NAME IS CHADERNNAY BRINK AND I AM STUDYING CITY AND REGIONAL PLANNING AT THE UNIVERSITY OF CAPE TOWN.

I AM DOING RESEARCH ON **MOVING TOWARDS A STRATEGY FOR THE SUSTAINABLE DELIVERY OF EMERGENCY HOUSING AND TEMPORARY RESIDENTIAL ACCOMODATION IN THE CITY OF CAPE TOWN, A CASE STUDY: OR TAMBO TRA KHAYELITSHA**, AS PART OF MY MASTERS DISSERTATION AND I WOULD LIKE TO ASK YOU SOME QUESTIONS TO HELP ME WITH MY RESEARCH.

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YES I GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION / WORDS IN YOUR DISSERTATION



NO I DO NOT GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION /WORDS IN YOUR DISSERTATION



IF YOU WANT TO END THE INTERVIEW AT ANY POINT YOU ARE FREE TO DO SO.

MY SUPERVISOR IS TANIA KATZCHNER AND HIS/HER CONTACT DETAILS ARE: Tania.Katzchner@uct.ac.za

Groenewald, SPO Planning
Signature and designation (interviewee)

[Signature]
Signature of student



SCHOOL OF ARCHITECTURE, PLANNING AND GEOMATICS

University of Cape Town
Private Bag x3, Rondebosch 7701
Centlivres Building
Email: Janine.Meyer@uct.ac.za Tel: 27 21 6502359

UNIVERSITY OF CAPE TOWN

June 2014

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YES I GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION / WORDS IN YOUR DISSERTATION

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NO I DO NOT GIVE PERMISSION FOR YOU TO USE MY NAME / DESIGNATION /WORDS IN YOUR DISSERTATION

☐

IF YOU WANT TO END THE INTERVIEW AT ANY POINT YOU ARE FREE TO DO SO.

MY SUPERVISOR IS TANIA KATZSCHNER AND HER CONTACT DETAILS ARE Tania.katzschner@uct.ac.za; phone: 021 6502381:

Handwritten signature of Johan W Gerber.

Johan W Gerber
Manager Informal Settlements
City of Cape Town

Handwritten signature of the student.

Signature of student

EBE Faculty: Assessment of Ethics in Research Projects (Rev2)

Any person planning to undertake research in the Faculty of Engineering and the Built Environment at the University of Cape Town is required to complete this form before collecting or analysing data. When completed it should be submitted to the supervisor (where applicable) and from there to the Head of Department. If any of the questions below have been answered YES, and the applicant is NOT a fourth year student, the Head should forward this form for approval by the Faculty EIR committee: submit to Ms Zulpha Geyer (Zulpha.Geyer@uct.ac.za; Chem Eng Building, Ph 021 650 4791).

NB: A copy of this signed form must be included with the thesis/dissertation/report when it is submitted for examination

This form must only be completed once the most recent revision EBE EIR Handbook has been read.

Name of Principal Researcher/Student: Chadermnay Brink
Geomatics

Department: Architecture, Planning and

Preferred email address of the applicant: BRNCHA013@myuct.ac.za

If a Student:

Degree: Masters in City and Regional Planning (MCRP) Supervisor:

Tania

Katzschner

If a Research Contract indicate source of funding/sponsorship: N/A

Research Project Title: Moving Towards a Strategy For The Sustainable Delivery of Emergency Housing and Temporary Residential Accommodation in the City of Cape town.

A Case Study: OR Tambo TRA Khayelitsha

Overview of ethics issues in your research project:


Question 1: Is there a possibility that your research could cause harm to a third party (i.e. a person not involved in your project)?	YES	<input checked="" type="checkbox"/>
Question 2: Is your research making use of human subjects as sources of data? If your answer is YES, please complete Addendum 2.	<input checked="" type="checkbox"/>	NO
Question 3: Does your research involve the participation of or provision of services to communities? If your answer is YES, please complete Addendum 3.	<input checked="" type="checkbox"/>	NO
Question 4: If your research is sponsored, is there any potential for conflicts of interest? If your answer is YES, please complete Addendum 4.	YES	<input checked="" type="checkbox"/>

If you have answered YES to any of the above questions, please append a copy of your research proposal, as well as any interview schedules or questionnaires (Addendum 1) and please complete further addenda as appropriate. Ensure that you refer to the EIR Handbook to assist you in completing the documentation requirements for this form.

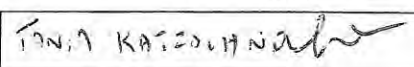
I hereby undertake to carry out my research in such a way that

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

Signed by:

	Full name and signature	Date
Principal Researcher/Student:	Chadermnay Maria Brink 	6/9/2014

This application is approved by:

Supervisor (if applicable):	TANIA KATZSCHNER 	20 06 2014
HOD (or delegated nominee): <i>Final authority for all assessments with NO to all questions and for all undergraduate research.</i>		

EIR chair

G. Sithole

23/7/2014

Student Number: BRNCHA013

Student Name: Chadernnay Brink

Degree: Masters of City and Regional Planning

19 June 2014

RE: Letter in support of Ethics application to outline nature of interviews

To the Faculty of Engineering and the Built Environment Ethics Committee

I am writing with regard to gaining ethical approval to pursue research for my dissertation topic entitled, 'Moving towards a Strategy for the Sustainable Delivery of Emergency Housing and Temporary Residential Accommodation in the City of Cape Town. A Case Study: OR Tambo TRA Khayelitsha'. Attached to this letter please find my research proposal and the completed Assessment of Ethics in Research form. I am writing this letter to provide some more information and clarity with regards to addendum 2 and 3.

The interviews conducted during the research process will be a dialogue about my ideas, thoughts and the experiences faced by the Municipality, implementation agencies and beneficiaries. The interviews will not use any questionnaires but will be conducted as an open ended conversation and dialogue. The interviews will not discriminate against any race or gender as the research will focus on a particular group of people based on their role in the emergency housing context. An example of people being interviewed would be local municipal officials from the department of human settlements and disaster risk management; they will be interviewed based on their role and responsibility in the Emergency Housing process. The goal of the interviews is to gain a better perspective of the role and function of each of the interviewees in the Emergency Housing Process. The interviewee will be able to decide and determine what I may or may not disclose should there be any sensitive issues. A consent form will be provided to ensure proof of consent to be interviewed is attained. This consent form will also detail the permitted use of the information gathered from the interviewees and details on how to treat the identity of the interviewee. My research findings will be accessible to all those whom I have interviewed and they have the chance to change or check what I have written. If there is any information that I am unable to use, I will honour that. The data collected from these interviews will play a supportive role to my findings from secondary sources. It will help identify gaps in current studies about the area and will help get a sense of the everyday experience and reality with the situation described in the literature. These interviews and dialogues will also help enhance or add to information from the literature as there is no scope for representative, meaningful surveys or public consultation to take place in the timeframe of this dissertation.

In the event that a conversation takes place over the phone or e-mail, I will take the necessary precaution in attaining consent by asking the person for written consent prior to discussing certain issues and check how I can or cannot reveal their identity. The Information obtained through the

1. YOUR NAME

Chadernnay Brink

2. WORKING TITLE OF YOUR DISSERTATION

Moving Towards a Strategy for the Sustainable Delivery of Emergency Housing and Temporary Residential Accommodation in the City of Cape Town.

A Case Study: OR Tambo TRA Khayelitsha

3. PRECISE NATURE OF THE SUBJECT MATTER

- Problem or issue to be investigated

On the 1st of January 2013 there was a devastating fire in the Barney Molokwane (BM) section, an area situated in Khayelitsha. The fire destroyed 792 dwellings leaving many families displaced without any belongings or sense of security brought about by a place these families know as their home. This event necessitated a quick response and an expedited plan of action referred to as the Barney Molokwane (BM) Rescue Plan, which is currently being managed by the Urbanisation Directorate, Human Settlements. It is important to understand that Temporary Relocation Areas require co-operation between all three tiers of government, National, Provincial and Local Government.

The Rescue Plan incorporates the development of two Temporary Relocation Areas (TRA) which have become known as the OR Tambo TRA and the BV Section TRA, which were expected to become an Incremental Development Area (IDA) designed to house 1006 families. The City of Cape Town agreed to undertake the planning process for a total reconfiguration of the BM Section Area. The temporary relocation areas were planned, designed and had contractors on site within two weeks from the date of the fire with minor civil engineering works and was completed within three weeks. The first 450 beneficiaries were issued with enhanced fire kits and settled in the BV section TRA in a re blocked manner, the OR Tambo TRA was established to accommodate 332 families (City of Cape Town Department of Human Settlements, 2014). Given the nature of the fire which resulted in the displacement of hundreds of families, humanitarian organisations namely Gift of the Givers and Ikhayalami pledged to build temporary top structures and handed it over to some displaced fire victims. Both organisations agreed to donate collectively 191 top structures, and agreed to work in conjunction with the City of Cape Town for the purposes of adhering to standards and regulations required by settlements-engineering services (City of Cape Town Department of Human Settlements, 2014). The intended long term solution to settling fire victims was a development of an (IDA) Incremental Development Area which would be an extension to an existing IDA in the Mfuleni Area known as Bosasa IDA. Due the development being of a formal nature there are many processes and procedures to adhere to.

While the plan was approved, the implementation was carried out by three different

agencies. Each agency interpreted and implemented the plan in a different manner. The site has three different spatial layouts as per implementation agents interpretation which represent different spatial arrangements and approaches to settlement making which have significant implications on the lives of the beneficiaries intended to live in this environment. The project has also experienced certain delays from the Mfuleni community as they felt their living situation was also in a state of emergency (City of Cape Town Department of Human Settlements, 2014). The City of Cape Town had to come to an agreement with the community so that fire victims could be housed at the Incremental Development Area (IDA), the condition of the agreement stated that the Mfuleni Community would benefit from the new development.

This project illustrates a disconnect between design and implementation as well as represents the lack of meaningful participation with the public and implementation agencies. The role of public participation is crucial in making inform decisions around settlement making and development.

- **Your philosophical/ethical position (briefly) with regard to this type of problem or issue**

Built environment professionals such as planners should incorporate the term *sustainable development* as an integral part of their decision making processes. Sustainable development practices should be based on the goal to “make all cities socially inclusive, economically productive, environmentally sustainable, and resilient to climate change and other risks” (Sustainable Development Solutions Network, 2013). In addition to these broad based sustainable development goals cities should also “develop participative, accountable and effective city governance to support rapid and equitable urban transformation” (Sustainable Development Solutions Network, 2013). In relation to the temporal issues surrounding Temporary Relocation Area’s (TRAs), decisions should be based on sustainable public participation practices throughout the process of plan making and implementation. The Temporary Relocation Area (TRA) and Incremental Development Areas (IDA) approach to emergency housing should embrace and be based on *place identity* and *empowering local residents* through provision of adequate humanitarian structures that are sustainable (Fox, 2000: 38-43). *Place Identity* is particularly important in the local context especially in areas of informality where the community is often closely knitted together. It is important to respect areas of spiritual and heritage significance that have emotional attachments in the local community. Development should not remove or dispose areas or structures that form part of the identity of an area. *Empowerment of local residents* refers to involving locals in the development process so that they understand decisions made and can be involved in participating in the process. Within the context of my research there are key principles upon which development should be based upon namely, inclusivity, equity and empowerment; these principles are the corner stones of our country’s democracy.

- **Broadly, the types and potential uses of the proposals that you expect to put forward (eg aimed at policy debate, local action plan etc)**

-The Emergency Housing Programme policy is both proactive and reactive, it includes situations of ‘risk’ and ‘threat’. There needs to be a disaster risk emergency response process policy recommendation, which is aimed at disaster risk mitigation,

management and response (i.e. TRA process). From a city planning point of view there needs to be a well-defined and clear process that facilitates collaboration between various government departments as to be more proactive rather than reactive. This process should enable various budgets and plan approvals to be fast paced in times of "emergency response". Furthermore, the role of public participation in the disaster risk process is currently not evident on ground level and should be facilitated as to allow involvement in decision making processes and further address the beneficiary's vulnerable situation. In addition, the planning process recommendation should address the TRA process and its temporal status and importance of each TRA to be formalised over time into IDA's using available planning resources in terms of additional funding mechanisms.

- The theoretical field/s likely to be most relevant to your project

Key theoretical fields:

- Emergency Housing
- Permanent vs. Transitional Housing
- Disaster risk management
- Co-operative Governance
- Participatory Planning

Theoretical fields of interest:

- Developing resilient cities (environmental well-being)
- Sustainable hazards mitigation
- Managing the vulnerability of the poor
- Sustainable vs. Invulnerable Development

4. MAP OF STUDY AREA (if relevant)

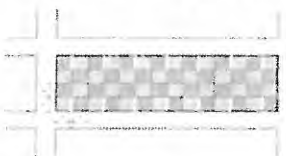
Left: Approved BM Section Plan. Right: Aerial view of BM Section indicating how the plan was implemented



Left: Conceptual arrangement of the BM Section site, to form an urban block which has the potential for formalisation in time.

Right: Zoomed aerial view of new blocked out BM section

DEMONSTRATING OPTIONS FOR THE TRANSFORMATION FROM A TRA TO IDA THROUGH THE MODIFICATION OF THE SAME URBAN BLOCK AND CONSOLIDATION OF ERVEN



TRA LAYOUT

Site area: 10,000 m²
Street width: 10m
TOTAL UNITS IN BLOCK: 40
NET DENSITY: 100 DU/HA
GROSS DENSITY: 100 DU/HA



CONSOLIDATING 2 INTO 1

Site area: 5,000 m²
Street width: 10m
TOTAL UNITS IN BLOCK: 20
NET DENSITY: 80 DU/HA
GROSS DENSITY: 80 DU/HA



CONSOLIDATING 4 INTO 3

Site area: 3,333 m²
Street width: 10m
TOTAL UNITS IN BLOCK: 10
NET DENSITY: 110 DU/HA
GROSS DENSITY: 110 DU/HA
Additional for landscaping



5. DRAFT WORK PROGRAMME

- **The central questions to be investigated**

Primary Research Questions:

- What planning tools and strategies can facilitate the emergency housing programme to be more proactive?
- How can planners better facilitate the notion of co-operative governance which will enable all three government spheres (National Provincial and Local) and departments to work together in a supportive manner to fulfil its constitutional mandate in delivering adequate shelter for people to reside in?
- How can the public participation process be enhanced and made more meaningful in a situation of 'disaster risk'?

- Case Study Research Questions:

- Was the plan implemented as authorised?
- Were the beneficiaries consulted prior to planning and implementation phase (i.e. Public participation during the TRA process)
- Which is the more humane / dignified environment for the beneficiaries?
- Which spatial arrangement holds the best short, medium and long term opportunity?
- Which environments worked best for the beneficiaries?
- What lessons does this case study hold for future projects?

- **The tasks involved**

The following tasks described below will be undertaken in order to complete my dissertation. There will be an introductory chapter will introduce the reader to the purpose and object of the study. The following task is the literature review; this chapter is a review of literature relevant to the study. It is both a critical and descriptive review of what scholars have to say about the topic under study. It also gives insight into current debates and thinking around the topic. The next task is the contextual analysis, where I intend to analyse the area chosen as a case study. This task will require field work which will be done through an interview process with various stakeholders and beneficiaries involved in the case study. The interviews will be structured to an extent, but will be mostly open ended to allow for an open dialogue between the interviewer and interviewee. The aim of the interviews in my research is to gain some insight of real life realities and to get different views on the area of research. In addition to interviews another research technique used, will be desk top research, this technique will help locate and further understand existing information surrounding my area of research such as policy's relevant to the topic under study. Once field work and desktop research has been completed, the following task involves interpretation of data, this process will order and structure data obtained through the research process. The outcome of this task is using the interpreted data to answer research questions. Thereafter, a review of a precedent study, to establish certain principles that the research topic should be based upon, this process will be iterative as a review of literature will also give some insight into similar contexts will similar challenges faced by the case study that my dissertation will be based upon. The next task will be putting forward a policy recommendation based on research findings and the review of a precedent study. This task will also include an implementation strategy of the policy recommendation. After this process, there will be a review of the research process that will outline limitations and lessons learnt. Lastly, a concluding chapter that will outline possible future research areas and

make some concluding remarks about the research topic under study.

- **Research method/s to be used**

The case study research method has been chosen as the appropriate research method. Case studies allow you to produce context dependent, value driven knowledge (Flyvbjerg, 2011). Flyvbjerg (2001) has also noted that concrete, context dependent knowledge is 'more valuable in the study of human affairs than the vain search for predictive theories and universals' (Flyvbjerg, 2001: 73). The case study research method allows the researcher to gain deep insights based on detailed information about the research topic. However, there are limitations; the only generalisation that can be made from the case study method is about process. In terms of data collection, I have made contact with data sources and have access to detailed documents pertaining to the events that occurred in the case study area. I plan to keep a case chart which will show various stakeholders that have and are currently involved in the case. The outcome of the case study method will be to build a coherent, thought driven and concise narrative.

- **Time allocated to each task**

Introduction (17-24 June)

Literature Review (25 June- 18 July)

Contextual Review of Case Study

Interviews with beneficiaries

Interview with designers

Interviews with Implementing Agents

Interviews with managing Agents (Field work/Interviews- 17 June -31 July)

Policy recommendation (1 August- 31 August)

Implementation (1 September- 15 September)

Conclusion (15 September- 20 September)

Proof read and edit document (21 September- 17 October)

Final Submission: 24 October 2014

6. DOCUMENTARY AND RESEARCH MATERIAL AVAILABLE (full details)

- Research Method:

Flyvbjerg, B, 2001. Making social science matter: Why social inquiry fails and how it can succeed again. Mambridge: Cambridge University Press.

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- Ethics

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- Main theoretical texts and/or case material

AlSayyad, N, 2004. Urban Informality as a New Way of Life. In Roy A & AlSayyad, N, (Ed). Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia. pp.7-32. Lexington Books, Maryland.

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Harrison, P., Huchzermeyer, M., & Mayekiso, M. 2003. Confronting fragmentation: housing and urban development in a democratising society. Cape Town: Juta Academic.

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Hart, G, 2013. Rethinking the South African Crisis: Nationalism, Populism, Hegemony. South Africa: University of KwaZulu Natal Press.

Huchzermeyer, M, 2001. Housing for the poor? Negotiated housing policy in South Africa. *Habitat International*, 25(3), 303-331. Huchzermeyer, M, 2003. Housing rights in South Africa: invasions, evictions, the media, and the courts in the cases of Grootboom, Alexandra, and Bredell. *Urban Forum*, 14 (1), 80-107. Springer.

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- **Maps (subjects)**

Aerial Photography (Contextual Chapter of Dissertation): City of Cape Town-
Susan Groeneveld

Johan Greber

Waleed Adams

Formalised Plan for the OR Tambo TRA: Urban Designer- Marco Geretto



SCHOOL OF ARCHITECTURE, PLANNING AND GEOMATICS

University of Cape Town

Private Bag x3, Rondebosch 7701

Centlivres Building

Email: Janine.Meyer@uct.ac.za Tel: 27 21 6502359

June 2014

STATEMENT TO BE READ OUT TO AN INTERVIEWEE BY A STUDENT ABOUT TO UNDERTAKE AN INTERVIEW FOR THE PURPOSES OF A MASTERS DISSERTATION

A copy of the form can be given to the respondent if they request it, so keep copies with you.

MY NAME IS CHADERNNAY BRINK AND I AM STUDYING CITY AND REGIONAL PLANNING AT THE UNIVERSITY OF CAPE TOWN.

I AM DOING RESEARCH ON MOVING TOWARDS A STRATEGY FOR THE SUSTAINABLE DELIVERY OF EMERGENCY HOUSING AND TEMPORARY RESIDENTIAL ACCOMMODATION IN THE CITY OF CAPE TOWN. A CASE STUDY: OR TAMBO TRA KHAYELITSHA AS PART OF MY MASTERS DISSERTATION AND I WOULD LIKE TO ASK YOU SOME QUESTIONS TO HELP ME WITH MY RESEARCH.

I CAN PROMISE THAT I WILL NOT RECORD YOUR NAME OR ADDRESS, AND YOUR PERSONAL DETAILS WILL NOT IN ANY WAY BE REVEALED IN MY DISSERTATION OR ANY PUBLICATION I PRODUCE.

THE QUESTIONS I ASK ARE ONLY FOR RESEARCH AND THEY CANNOT DIRECTLY BENEFIT YOU OR YOUR COMMUNITY.

IF YOU WANT TO END THE INTERVIEW AT ANY POINT YOU ARE FREE TO DO SO.

MY SUPERVISOR IS MS TANIA KATZSCHNER AND HIS/HER CONTACT DETAILS ARE:
Tania.katzschner@uct.ac.za

CHADERNNAY BRINK

Signed (student)

This form is to be completed with your details filled in, and submitted with your ethics form

ADDENDUM 1:

Please append a copy of the research proposal here, as well as any interview schedules or questionnaires:

ADDENDUM 2: To be completed if you answered YES to Question 2:

It is assumed that you have read the UCT Code for Research involving Human Subjects (available at <http://web.uct.ac.za/depts/educate/download/uctcodeforresearchinvolvinghumansubjects.pdf>) in order to be able to answer the questions in this addendum.

2.1 Does the research discriminate against participation by individuals, or differentiate between participants, on the grounds of gender, race or ethnic group, age range, religion, income, handicap, illness or any similar classification?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
2.2 Does the research require the participation of socially or physically vulnerable people (children, aged, disabled, etc) or legally restricted groups?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
2.3 Will you not be able to secure the informed consent of all participants in the research? (In the case of children, will you not be able to obtain the consent of their guardians or parents?)	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
2.4 Will any confidential data be collected or will identifiable records of individuals be kept?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
2.5 In reporting on this research is there any possibility that you will not be able to keep the identities of the individuals involved anonymous?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
2.6 Are there any foreseeable risks of physical, psychological or social harm to participants that might occur in the course of the research?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
2.7 Does the research include making payments or giving gifts to any participants?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

If you have answered YES to any of these questions, please describe below how you plan to address these issues:




2.1. The research requires insight into differentiations among racial, income and age groups. The reason for this is to gain insight and understanding as to the demographic profile of people living in the area that are affected by disaster risk. Furthermore, this demographic profile will assist in service provision for Temporary Relocation Areas (TRA) which will be intended to be further developed into Incremental Development Areas (IDA). The reason for requiring income information is to determine whom qualifies for social housing programmes. The collation of the demographic profile and income profile is not intended to discriminate but rather facilitate in helping people affected by disasters in their living environment.

2.2. People affected by disaster risk are often referred to as vulnerable because of their living environment which is largely informal.

2.3. I have made contact with organisations involved in my case study area, OR Tambo Khayelitsha. These organisations understand the community that lives in the area and know who I can speak to because they have been involved in the development of the Temporary Relocation Area (TRA).

2.4. The only confidential data collected will be income information of the research participants, records will be kept as to develop an overall income profile of the community. Individual records will not be disclosed as the research is aimed at developing a profile for the entire community.

ADDENDUM 3: To be completed if you answered YES to Question 3:

3.1 Is the community expected to make decisions for, during or based on the research?	YES	NO 
3.2 At the end of the research will any economic or social process be terminated or left unsupported, or equipment or facilities used in the research be recovered from the participants or community?	YES	NO 
3.3 Will any service be provided at a level below the generally accepted standards?	YES	NO 

If you have answered YES to any of these questions, please describe below how you plan to address these issues:

ADDENDUM 4: To be completed if you answered YES to Question 4

4.1 Is there any existing or potential conflict of interest between a research sponsor, academic supervisor, other researchers or participants?	YES	NO
4.2 Will information that reveals the identity of participants be supplied to a research sponsor, other than with the permission of the individuals?	YES	NO
4.3 Does the proposed research potentially conflict with the research of any other individual or group within the University?	YES	NO

If you have answered YES to any of these questions, please describe below how you plan to address these issues: